

## **APPENDICES**

### **ENERGY ENGINEERING ANALYSIS PROGRAM**

### **LIMITED ENERGY STUDY**

**FORT HUNTER-LIGGETT, CALIFORNIA  
1993**

### **VOLUME III**

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**DEPARTMENT OF THE ARMY  
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#### **PREPARED BY**

**KELLER & GANNON  
ENGINEERS • ARCHITECTS  
1453 MISSION STREET, SAN FRANCISCO, CA 94013**

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DEPARTMENT OF THE ARMY  
CONSTRUCTION ENGINEERING RESEARCH LABORATORIES, CORPS OF ENGINEERS  
P.O. BOX 9005  
CHAMPAIGN, ILLINOIS 61826-9005

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## **APPENDIX F**

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## APPENDIX F

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TABLE F-1 EEAP BUILDINGS (REAL PROPERTY LIST RECORDS)

Fac No.	Installation Name	Field Work Scope	Area (SF)	Useable (SF)	Category Code	Other Measure	Remarks
T 6	Family Housing NCO & Enl	Bldg	1,090	885	71115	1 Family	Evap Cing &
P 41A	Family Housing NCO & Enl	-	1,397	-	71115	1 Family	Ac Cing & Ht
P 41B	Family Housing NCO & Enl	-	1,937	-	71115	1 Family	Ac Cing & Ht
P 42A	Family Housing NCO & Enl	-	1,937	-	71115	1 Family	Ac Cing & Ht
P 42B	Family Housing NCO & Enl	-	1,937	-	71115	1 Family	Ac Cing & Ht
P 43A	Family Housing NCO & Enl	-	1,937	-	71115	1 Family	Ac Cing & Ht
P 43B	Family Housing NCO & Enl	-	1,937	-	71115	1 Family	Ac Cing & Ht
P 44A	Family Housing NCO & Enl	-	1,937	-	71115	1 Family	Ac Cing & Ht
P 44B	Family Housing NCO & Enl	-	1,937	-	71115	1 Family	Ac Cing & Ht
P 45A	Family Housing NCO & Enl	-	1,937	-	71115	1 Family	Ac Cing & Ht
P 45B	Family Housing NCO & Enl	-	1,937	-	71115	1 Family	Ac Cing & Ht
P 46	Family Housing CG & WO	Bldg	2,089	-	71114	1 Family	Ac Cing & Ht
P 47	Family Housing CG & WO	-	2,089	-	71114	1 Family	Ac Cing & Ht
P 51A	Family Housing NCO & Enl	Bldg	1,937	-	71115	1 Family	Ac Cing & Ht
P 51B	Family Housing NCO & Enl	-	1,937	-	71115	1 Family	Ac Cing & Ht
P 52A	Family Housing NCO & Enl	-	1,937	-	71115	1 Family	Ac Cing & Ht
P 52B	Family Housing NCO & Enl	-	1,937	-	71115	1 Family	Ac Cing & Ht
P 53	Family Housing CG & WO	-	2,089	-	71114	1 Family	Ac Cing & Ht
P 54	Family Housing CG & WO	Bldg	2,089	-	7111	41 Family	Ac Cing & Ht
P 55	Family Housing CG & WO	-	2,089	-	71114	1 Family	Ac Cing & Ht
P 56	Family Housing CG & WO	-	2,089	-	71114	1 Family	Ac Cing & Ht
P 57	Family Housing CG & WO	-	2,089	-	71114	1 Family	Ac Cing & Ht
P 58	Family Housing CG & WO	-	2,089	-	71114	1 Family	Ac Cing & Ht
P 59	Family Housing CG & WO	-	2,089	-	71114	1 Family	Ac Cing & Ht
P 60	Family Housing CG & WO	-	2,089	-	71114	1 Family	Ac Cing & Ht
S 79	Post Office, Main	Bldg	1,000	950	73073	-	Elec space H
P 80	Exchange, Main Retail	Bldg & Cing	9,093	8,200	74053	-	Ac Cing & Ht
P 81	Theater with Dressing Rm's	Bldg	6,719	5,913	74076	350 seats	Ac Cing & Ht
P 101	Open Din Cons (Hacienda) Club (Bar)	Bldg 22,211 Total SF	6,171 3,046 4,721	19,546	74046	-	Ac Cing & Ht
	Hacienda, East Rooms Hacienda, West Rooms		8,273				
P 116	Exchange Service Station (Non-shop areas)	Bldg Total=1,788	1,126 662	1,573	74052	-	Ac Cing & Ht

TABLE F-1 EEAP BUILDINGS (REAL PROPERTY LIST RECORDS)

Fac No.	Installation Name	Field Work Scope	Area (SF)	Useable (SF)	Category Code	Other Measure	Remarks
T 120	Fire Station - Office	Bldg	3,636	9,120	74034	285 Seats	Elec Heat
	Fire Station - Dorm	Total SF	2,653	Outdated			
	Fire Station - Garage	11,238	4,949				
T 121	Bowling Center	Bldg & Cing	4,952	4,910	74011	-	AC Cing & Ht
		Total 5,580 S	628				
T 124	Family Housing LC & MJ	Bldg	2,001	2,033	71113	1 Family	Evap Cing &
T 127	Officers Quarters Military	Bldg	2,250	1,420	72410	10 PN	Evap Cing &
P 128	Officers Quarters Military	Bldg & Cing	20,196	16,900	72410	50 PN	Ac Cing & Ht
T 131	Family Housing CG & WO	Bldg	998	870	71114	1 Family	Ac & Evap Cing
S 144	Gymnasium	Bldg	7,172	6,201	74034	-	Ht PI
S 146	FE Facility	Bldg	4,042	3,840	21920	-	Evap Cing &
T 149	Family Housing NCO & Enl	Bldg	1,196	857	71115	1 Family	Ac Cing & Sp
T 156	FE Facility - Shop	Bldg	1,753	2,025	21920	-	Wood Stove
	FE Facility - Office	Total 2,250	497				
T 158	Vehicle Storage	Bldg	1,859	1,179	44262	-	-
T 161	Admin General Purpose	Bldg	2,250	1,556	61050	17 PN	Evap Cing &
T 162	Elec Maint. Shop	Bldg	2,250	1,429	21710	-	Evap Cing &
T 163	Officers Quarters Military	-	2,250	1,517	72410	10 PN	Evap Cing &
T 164	Admin General Purpose	-	2,250	2,205	61050	17 PN	AC Cing & Ht
T 165	Admin General Purpose	-	2,250	1,676	61050	017 PN	Ht PI
T 166	Officers Quarters Military	-	2,250	1,426	72410	10 PN	Evap Cing &
T 167	Officers Quarters Military	-	2,250	1,284	10 PN	10 PN	Evap Cing &
S 168	General Purp Warehouse	Bldg	6,560	5,597	44220	-	-
T 172	Cold Storage Warehouse	Bldg	800	720	43210	3,264 CF	Cold Stg for
P 177	Technical Library	Bldg & Cing	3,599	2,930	61065	-	Ac Cing & Ht
P 178	Child Development Cntr	Bldg	3,599	2,422	74047	-	Ac Cing & Ht
S 182	Commissary	Bldg	3,000	-	74021	-	-
S 186	Sup Svc Admin Bldg	Bldg	1,920	1,350	61023	16 PN	Ac Cing & El
P 190	Post Chapel	Bldg	2,720	2,394	73017	70 Seats	Ac Cing & Ht
S 197	Admin Bldg R&D - Office	Bldg	2,100	5,070	61060	57 PN	Ac Cing & Ht
	Admin Bldg R&D - Electronics	Total 7,728	6,062	Outdated			
S 198	General Inst Bldg	Cing Only	1,090	836	171120	25 PN	Evap Cing &
P 205	Admin General Purpose	-	35,820	29,693	61050	231 PN & CCN 74023	AC Cing & S
P 205A	Company HQ Building		5,161				

TABLE F-1 EEAP BUILDINGS (REAL PROPERTY LIST RECORDS)

Fac No.	Installation Name	Field Work Scope	Area (SF)	Useable (SF)	Category Code	Other Measure	Remarks
P 206	Enlisted Pers Dining Fac Kitchen Area - Scullery	Bldg	16,768	14,756	72210	1,5 PN	Ac Clng & Ht
P 207	Enl Barracks w/o Dining	Bldg	35,820	27,238	72111	245 PN	Ac Clng & Ht
P 207A	Company HQ Building	Bldg	5,161	-	14185	44 PN	-
P 208	Enl Barracks w/o Dining	Bldg & Clng	35,820	26,999	72111	245 PN	Ac Clng & Ht
P 208A	Company HQ Building	-	5,161	-	14185	44 PN	-
P 209	AAFES Snack Bar	Bldg	3,320	2,922	74062	-	Ac Clng & Ht
P 210	Hlth/Dntl Clinic w/ Beds	Bldg & Clng	10,973	5,877	5540	3 BD	Ac Clng & Ht
P 211	Outdoor Swimming Pool	-	-	-	75030	1 EA	Ht Pl 0.75-3.5
P 212	Gymnasium	Bldg	8,907	-	74034	1547 CM Evap Clr	Evap Clng &
P 219	Physical Fitness Center	-	3,212	2,826	74028	-	Evap Clng &
P 229	Enl Barracks w/o Dining	Bldg & Clng	40,915	26,692	72111	245 PN	Ac Clng & Ht
P 229A	Company HQ Building	-	5,161	-	72111	44 PN	-
P 230	Enl Barracks w/o Dining	Clng Only	35,820	36,063	72111	245 PN	Ac Clng & Ht
P 230A	Company HQ Building	-	5,161	-	72111	44 PN	-
S 235	Admin General Purpose	-	3,000	2,139	61050	27 PN	Ac Clng & Ht
S 236	Admin General Purpose	-	3,000	2,158	61050	27 PN	Ac Clng & Ht
S 237	Admin General Purpose	-	3,000	2,158	61050	27 PN	-
S 238	Sig Photo Lab Process	Bldg & Clng	14,548	10,477	14130	-	Ac Clng & Ht
P 240	Admin General Purpose	-	3,000	2,095	61050	27 PN	Ac Clng & Ht
S 241	GM Facility	Bldg & Clng	10,000	7,953	31220	-	AC & Evap C
S 243	Admin General Purpose	-	3,000	2,099	61050	27 PN	Ac Clng & Ht
S 244	Admin General Purpose	-	3,000	2,099	61050	27 PN	Ac Clng & Ht
S 246	Admin General Purpose	-	3,000	2,099	61050	27 PN	Ac Clng & Ht
S 247	Admin General Purpose	-	3,000	2,099	61050	27 PN	Ac Clng & Ht
P 252	Vehicle Maint Shop DS	Bldg	12,299	11,308	21420	12 Vehicles	Ht Pl
P 256	Vehicle Maint Shop ORG	-	5,294	4,722	221410	2 Vehicles	Ht Pl
P 259	Vehicle Maint Shop ORG	-	13,667	11,329	21410	12 Vehicles	Ht Pl
S 283	FE Maintenance Shop	Bldg	4,000	3,861	44220	-	-
S 286	Admin General Purpose	-	3,000	2,080	61050	27 PN	Ac Clng & Ht

TABLE F-1 EEAP BUILDINGS (REAL PROPERTY LIST RECORDS)

Fac No.	Installation Name	Field Work Scope	Area (SF)	Useable (SF)	Category Code	Other Measure	Remarks
P 287	Recreation Building	Bldg	5,584	4,914	74069	-	Ac Clng & Ht
S 288	General Purpose Warehouse	-	3,000	2,110	44220	-	Ac Clng & Ht
S 290	Electron Equip Facility	Cing Only	14,856	14,133	31740	-	Ac Clng & Ht
S 291	Cont Humid Warehouse	Bldg & Cing	7,400	6,512	44230	-	Ac Clng & Ht
P 295	Enl Barracks w/o Dining	Bldg & Cing	46,593	41,002	72111	228 PN	Ac Clng & Ht
P 301	ADP Building	Bldg & Cing	10,800	7,319	61031	50 PN	Ac Clng & Ht
P 642	Detached Latrine/Shower	Bldg	995	-	72324	-	Ht PI
S 2201	Control Tower - Range SPT	Bldg Ht Pmp	891	-	17123	-	Ac Clng & Ht

TABLE F-2 SUMMARY OF HEATING EQUIPMENT AND EFFICIENCIES SERVING EEAP BUILDINGS

Fac No.	Heating System Data			Heating System Losses						
	Fuel Type	System Type Code	Capacity BTUH	Firing Eff %	Auxiliary %	Radiant %	Convection %	Shut-Down %	General %	Net Eff %
T 121	Propane Same	AHU-PROP/DX	480,000	75.0%	-	4.0%	3.0%	2.0%	2.0%	64.0%
T 124	Propane	WAF-DX	NA	80.0%	-	8.0%	3.0%	2.0%	2.0%	65.0%
T 127	Propane	WAF	90,000	80.0%	-	8.0%	4.0%	2.0%	2.0%	64.0%
P 128	Propane	FCU-HWB/CW	567,000	89.0%	-	8.0%	4.0%	2.0%	2.0%	73.0%
T 131	Propane	WAF-DX	NA	80.0%	-	10.0%	4.0%	2.0%	3.0%	61.0%
S 144	Propane	PROP-UH	4 x NA	80.0%	-	6.0%	3.0%	2.0%	2.0%	67.0%
S 146	Propane	WAF	150,000	80.0%	-	8.0%	5.0%	2.0%	3.0%	62.0%
T 149	Propane	WAF-DX	90,000	80.0%	-	8.0%	3.0%	2.0%	2.0%	65.0%
T 156	Shop - Wood Office-Electric	Stove Window AC	- About 1 RT	-	-	-	-	-	-	-
T 158	Electric	Window AC	About 1 RT	-	-	-	-	-	-	-
T 161	Propane	WAF-PROP/DX	2 x 100,000	80.0%	-	4.0%	2.0%	1.0%	1.0%	72.0%
T 162	Propane	WAF-PROP/DX	2 x 100,000	80.0%	-	4.0%	2.0%	1.0%	1.0%	72.0%
T 163	Propane	WAF-PROP/DX	2 x 100,000	80.0%	-	4.0%	2.0%	1.0%	1.0%	72.0%
T 164	Propane	WAF-PROP/DX	2 x 100,000	80.0%	-	4.0%	2.0%	1.0%	1.0%	72.0%
T 165	Propane	WAF-PROP/DX	2 x 100,000	80.0%	-	4.0%	2.0%	1.0%	1.0%	72.0%
T 166	Propane	WAF-PROP/DX	2 x 100,000	80.0%	-	4.0%	2.0%	1.0%	1.0%	72.0%
T 167	Propane	WAF-PROP/DX	2 x 100,000	80.0%	-	4.0%	2.0%	1.0%	1.0%	72.0%
S 168	None	None	-	-	-	-	-	-	-	-
T 172	None	None	-	-	-	-	-	-	-	-
P 177	Propane	RTAHU-PROP/D	250,000	78.4%	-	5.0%	3.0%	2.0%	2.0%	66.4%
P 178	Propane	WAF-DX	2 x 100,000	80.0%	3.0%	5.0%	3.0%	2.0%	2.0%	65.0%
S 182	Propane	AHU-PROP/DX	2 x 80,000	77.0%	2.0%	5.0%	3.0%	2.0%	2.0%	63.0%
S 186	Propane	AHU-PROP/DX	NA	78.0%	-	5.0%	3.0%	2.0%	2.0%	66.0%
P 190	Fuel Oil	RTAHU-HWB/DX	528,000	85.7%	-	5.0%	3.0%	2.0%	2.0%	73.7%
S 197	Propane	AHU-PROP/DX	264,000 + 30kW Ht, 2x1.5RT	86.0%	-	8.0%	5.0%	2.0%	2.0%	69.0%
S 198	Propane	Wind Ac + ER	-	-	-	-	-	-	-	-
P 205	Fuel Oil	WAF	100,000	80.0%	-	5.0%	3.0%	2.0%	2.0%	68.0%
P 205A	Fuel Oil	RTAHU-HWB/CW	1,875,000	87.7%	-	7.0%	4.0%	2.0%	3.0%	71.7%
P 206	Fuel Oil	RTAHU-HWB/DX	(Same HW Bir)	87.7%	-	7.0%	4.0%	2.0%	3.0%	71.7%
P 207	Fuel Oil	RTAHU-HWB/DX	2 x 1,875,000	86.8%	-	7.0%	4.0%	2.0%	3.0%	70.8%
P 207A	Fuel Oil	AHU-HWB/CW	1,875,000	87.4%	-	7.0%	4.0%	2.0%	3.0%	71.4%
P 208	Fuel Oil	RTAHU-HWB/DX	(Same HW Bir)	87.4%	-	7.0%	4.0%	2.0%	3.0%	71.4%
P 208A	Fuel Oil	AHU-HWB/CW	1,875,000	88.1%	-	7.0%	4.0%	2.0%	3.0%	72.1%
P 208A	Fuel Oil	RTAHU-HWB/DX	(Same HW Bir)	88.1%	-	7.0%	4.0%	2.0%	3.0%	72.1%

TABLE F-2 SUMMARY OF HEATING EQUIPMENT AND EFFICIENCIES SERVING EEAP BUILDINGS

Fac No.	Heating System Data			Heating System Losses							Net Eff %
	Fuel Used Type	System Type Code	Capacity BTUH	Firing Eff %	Auxiliary %	Radiant %	Convection %	Shut-Down %	General %		
P 209	Propane	RTAHU-HWB/DX	280,000	77.2%	-	6.0%	5.0%	2.0%	3.0%	61.2%	
P 210	Fuel Oil	AHU-HWB/CW	472,000	81.1%	-	4.0%	3.0%	2.0%	2.0%	70.1%	
P 211	Propane	HWB	972,000	77.2%	-	5.0%	3.0%	2.0%	2.0%	65.2%	
P 212	Propane	WAF-DX	336,000	81.7%	-	6.0%	4.0%	2.0%	3.0%	66.7%	
P 219	Propane	AHU-HWB/EC	650,000	79.0%	-	6.0%	3.0%	1.0%	2.0%	67.0%	
P 229	Fuel Oil	AHU-HWB/CW	1,875,000	87.9%	-	7.0%	4.0%	2.0%	3.0%	71.9%	
P 229A	Fuel Oil	RTAHU-HWB/DX (Same HW Btr)	1,875,000	87.9%	-	7.0%	4.0%	2.0%	3.0%	71.9%	
P 230	Fuel Oil	AHU-HWB/CW	1,875,000	87.2%	-	7.0%	4.0%	2.0%	3.0%	71.2%	
P 230A	Fuel Oil	RTAHU-HWB/DX (Same HW Btr)	1,875,000	87.2%	-	7.0%	4.0%	2.0%	3.0%	71.2%	
S 235	Propane	AHU-PROP/DX	2 x 80,000	77.0%	-	4.0%	3.0%	1.0%	2.0%	67.0%	
S 236	Propane	AHU-PROP/DX	2 x 80,000	77.0%	-	4.0%	3.0%	1.0%	2.0%	67.0%	
S 237	Propane	AHU-PROP/DX	2 x 80,000	77.0%	-	4.0%	3.0%	1.0%	2.0%	67.0%	
S 238	Propane	RTAHU-HWB/DX	260,000	81.9%	-	5.0%	4.0%	2.0%	2.0%	68.9%	
P 240	Propane	AHU-PROP/DX	2 x 80,000	77.0%	-	4.0%	3.0%	1.0%	2.0%	67.0%	
S 241	Propane Electric	AHU-PROP/CW AHU-ER/DX	437,500 6 kW Reheat	83.6%	-	8.0%	4.0%	2.0%	3.0%	66.6% 0.0%	
S 243	Propane	AHU-PROP/DX	2 x 80,000	77.0%	-	4.0%	3.0%	1.0%	2.0%	67.0%	
S 244	Propane	AHU-PROP/DX	2 x 80,000	77.0%	-	4.0%	3.0%	1.0%	2.0%	67.0%	
S 246	Propane	AHU-PROP/DX	2 x 80,000	77.0%	-	4.0%	3.0%	1.0%	2.0%	67.0%	
S 247	Propane	AHU-PROP/DX	2 x 80,000	77.0%	-	4.0%	3.0%	1.0%	2.0%	67.0%	
P 252	Fuel Oil	HWB-UH/R	650,000	84.0%	-	4.0%	3.0%	2.0%	2.0%	73.0%	
P 256	Fuel Oil	HWB-UH/R	270,000	82.7%	-	4.0%	3.0%	2.0%	2.0%	71.7%	
P 259	Fuel Oil	HWB-UH/R	650,000	84.9%	-	4.0%	3.0%	2.0%	2.0%	73.9%	
S 283	Propane Electric	PROP-UH Heat Pump	3 X 75,000 24,000	80.0%	-	4.0%	2.0%	2.0%	3.0%	69.0%	
S 286	Propane	AHU-PROP/DX	2 x 80,000	77.0%	-	4.0%	3.0%	1.0%	2.0%	67.0%	
P 287	Propane	RTAHU-PROP/D	470,000	75.0%	-	4.0%	3.0%	2.0%	2.0%	64.0%	
S 288	Propane	AHU-PROP/DX	2 x 80,000	77.0%	-	4.0%	3.0%	1.0%	2.0%	67.0%	
S 290	Propane Electric	AHU-PROP/CW Window AC/ER	1,020,000 36.8 kW	80.8%	-	8.0%	4.0%	2.0%	3.0%	63.8%	
S 291	Propane	AHU-STM/DX	1,020,000	78.8%	3.0%	7.0%	4.0%	2.0%	3.0%	59.8%	
P 295	Propane	FCU-HWB/CW	3,250,000	77.7%	-	8.0%	5.0%	2.0%	3.0%	59.7%	
P 301	Propane Electric	AHU-Prop/DX CPU-ER/DX	312,500 2x(12.0,22.5)kW	84.0%	-	6.0%	3.0%	2.0%	2.0%	71.0%	



TABLE F-2 SUMMARY OF HEATING EQUIPMENT AND EFFICIENCIES SERVING EEAP BUILDINGS

Fac No.	Heating System Data			Heating System Losses						
	Fuel Used Type	System Type Code	Capacity BTUH	Firing Eff %	Auxiliary %	Radiant %	Convection %	Shut-Down %	General %	Net Eff %
P 642	Electric	Heat Lamps	2 x 120 W	-	-	-	-	-	-	-
S 2201	Electric	Heat Pump	11,600	-	-	-	-	-	-	-

TABLE F-3 SUMMARY OF COOLING EQUIPMENT SERVING EEAP BUILDINGS SPACE &amp; PROCESS COOLING REQUIREMENTS

Fac No.	Cooling System Descriptions		Manufacturer	Model Number	Serial Number
	System	Description			
T 6	Split System	Evaporator Coil on WAF	Carrier	38EH0303005M	4386E36750
P 41A	Split System	Evaporator Coil on WAF	Snyder General	AC0030GB	NA
P 41B	Split System	Evaporator Coil on WAF	Snyder General	AC0030GB	NA
P 42A	Split System	Evaporator Coil on WAF	Snyder General	AC0030GB	NA
P 42B	Split System	Evaporator Coil on WAF	Snyder General	AC0030GB	NA
P 43A	Split System	Evaporator Coil on WAF	Snyder General	AC0030GB	NA
P 43B	Split System	Evaporator Coil on WAF	Snyder General	AC0030GB	NA
P 44A	Split System	Evaporator Coil on WAF	Snyder General	AC0030GB	NA
P 44B	Split System	Evaporator Coil on WAF	Snyder General	AC0030GB	NA
P 45A	Split System	Evaporator Coil on WAF	Snyder General	AC0030GB	NA
P 45B	Split System	Evaporator Coil on WAF	Snyder General	AC0030GB	NA
P 46	Split System	Evaporator Coil on WAF	Snyder General	AC0030GB	R893300095
P 47	Split System	Evaporator Coil on WAF	Snyder General	AC0030GB	
P 51A	Split System	Evaporator Coil on WAF	Snyder General	AC0030GB	NA
P 51B	Split System	Evaporator Coil on WAF	Snyder General	AC0030GB	NA
P 52A	Split System	Evaporator Coil on WAF	Snyder General	AC0030GB	NA
P 52B	Split System	Evaporator Coil on WAF	Snyder General	AC0030GB	NA
P 53	Split System	Evaporator Coil on WAF	Snyder General	AC0030GB	
P 54	Split System	Evaporator Coil on WAF	Snyder General	AC0030GB	NA
P 55	Split System	Evaporator Coil on WAF	Snyder General	AC0030GB	
P 56	Split System	Evaporator Coil on WAF	Snyder General	AC0030GB	
P 57	Split System	Evaporator Coil on WAF	Snyder General	AC0030GB	
P 58	Split System	Evaporator Coil on WAF	Snyder General	AC0030GB	
P 59	Split System	Evaporator Coil on WAF	Snyder General	AC0030GB	
P 60	Split System	Evaporator Coil on WAF	Snyder General	AC0030GB	
S 79	Window A/C Units		Westinghouse & Dakin	NA	NA
P 80	Rooftop Heating & Cooling Unit		Lennox	DMS4360HW750	5175M0815SY
P 81	Split System, Central AHU		Trane	RAUA1253A & RAUB-406-E	NA
P 101	Chiller for Draw-thru Units Various Window A/C Units		Trane Various	CGAA-2006-MB NA	L77C03544 NA
P 116	Rooftop Heat Pump Unit		Carrier	T060233	NA
T 120	Pad Mounted Heating/Cooling Unit Pad Mounted Heating/Cooling Unit		Carrier Carrier	580AP048100 580AP048100	4289C13163 4289C13160

TABLE F-3 SUMMARY OF COOLING EQUIPMENT SERVING EEAP BUILDINGS SPACE &amp; PROCESS COOLING REQUIREMENTS

Fac No.	Cooling System Descriptions		Manufacturer	Model Number	Serial Number
	System Description				
T 121	Packaged AHU		Carrier	48DD024 Series 400 MA	G393846
T 124	Split System, Evaporator Coil on WAF		Carrier	38EH030340	4488E29965
T 127	Evaporative Cooler		NA	NA	NA
P 128	A/C Chiller		Trane	CGAC25B	594867
T 131	Split System, Evaporator Coil on WAF		Carrier	38EH030300SM	4386E37907
S 144	Evaporative Cooler		NA	NA	NA
S 146	Evaporative Cooler		NA	NA	NA
T 149	Split System, Evaporator Coil on WAF		Carrier	38EH036300	4488E31779
T 156	Window A/C Unit (2 each)		NA	NA	NA
	Evaporative Cooler (2 each)		NA	NA	NA
T 158	Window A/C Unit		NA	NA	NA
T 161	Packaged Heat/Cool Unit, Pad Mounted		Lennox	HS17-953-3Y	NA
T 162	Packaged Heat/Cool Unit, Pad Mounted		Lennox	HS17-813-34	NA
T 163	Packaged Heat/Cool Unit, Pad Mounted		Lennox	HS17-813-34	NA
T 164	Packaged Heat/Cool Unit, Pad Mounted		Lennox	HS17-813-34	NA
T 165	Packaged Heat/Cool Unit, Pad Mounted		Lennox	HS17-813-34	NA
T 166	Packaged Heat/Cool Unit, Pad Mounted		Lennox	HS17-813-34	NA
T 167	Packaged Heat/Cool Unit, Pad Mounted		Lennox	HS17-813-34	NA
S 168	No Cooling System		-	-	-
T 172	Refer to separate listing - Refr's		-	-	-
P 177	Packaged Rooftop Unit, Pad Mounted		Trane	YCH120A3HOAA	E481426330
P 178	Split System, WAF w/evap coils (2 ea)		Lennox	Cond: HS16-651U-8P	NA
S 182	Air Handling Unit (2 each)		Hussmann	HOC0315RLKXU	NA
S 186	Split System Air Cooled Condensing		Carrier/ Day-Night	569BPX090000OACAA	NA
P 190	Packaged Rooftop Unit (2 units)		Fedders	CTC060C8A	CM 904289
S 197	Packaged Unit		Lennox	OC33-1353-350	NA
	Window A/C Units (2 each)		NA	NA	NA
S 198	Evaporative Cooler		NA	NA	NA
P 205	Split System DX on Dual Duct AHU		Trane	RAUA-8006-EA	NA
P 205A	Rooftop Package Unit		Air Fan	LPS18D	NA
P 206	Package Units (2 each)		Trane	SLZB4004HA	45C44DE4E
	Evaporative Cooling Units (6 total)		3 each Trane & Arvin	Trane: Type GW	K89M37985, NA,
P 207	Split System DX on Dual Duct AHU		Trane	RAUA-8006-EA	NA
P 207A	Rooftop Package Unit		Air Fan	LPS18D	NA
P 208	Split System DX on Dual Duct AHU		Trane	RAUA-8006-EA	NA
P 208A	Rooftop Package Unit		Air Fan	LPS18D	NA

TABLE F-3 SUMMARY OF COOLING EQUIPMENT SERVING EEAP BUILDINGS SPACE &amp; PROCESS COOLING REQUIREMENTS

Fac No.	Cooling System Descriptions	Manufacturer	Model Number	Serial Number
P 209	Rooftop Packaged Unit (1 on Roof 1 Pad)	Mammoth & Trane	CEHB-181W258	17896-01-01
P 210	Chiller	Trane	CGABC256AB10F3	B81J04131
P 211	No Cooling			
P 212	Split System, DX Coil on WAF SA outlet	Lennox	HS6-1353V-7L (2 each)	5481J052, NA
P 219	Evap. cooling only, total 8 units	Arvin	NA	NA
P 229	Split System DX on Dual Duct AHU	Trane	RAUA-8006-EA	14969H84A10
P 229A	Rooftop Package Unit	Air Fan	LPS18D	0925
P 230	Split System DX on Dual Duct AHU	Trane	RAUA-8006-EA	NA
P 230A	Rooftop Package Unit	Air Fan	LPS18D	NA
S 235	Pad Mounted Package Gas Heat / Mech Cool	Carrier (2 each)	48LH006580	NA
S 236	Pad Mounted Package Gas Heat / Mech Cool	Carrier (2 each)	48LH006580	NA
S 237	Pad Mounted Package Gas Heat / Mech Cool	Carrier (2 each)	48LH006580	NA
S 238	Rooftop Package VAV Unit	McQuay	RP5030BY	3SG00759 13
P 240	Pad Mounted Package Gas Heat / Mech Cool	Carrier (2 each)	48LH006580	3297G24837
S 241	Split system AHU=Computer Room Unit	Bohn	D/S 0041AV31	BMA8190
	Chiller - Air Cooled	McQuay	ALR020AS	3ML0049811
	Evaporative Cooling Unit	Arvin	ES-143A	4430
S 243	Pad Mounted Package Gas Heat / Mech Cool	Carrier (2 each)	48LH006580	NA
S 244	Pad Mounted Package Gas Heat / Mech Cool	Carrier (2 each)	48LH006580	NA
S 246	Pad Mounted Package Gas Heat / Mech Cool	Carrier (2 each)	48LH006580	NA
S 247	Pad Mounted Package Gas Heat / Mech Cool	Carrier (2 each)	48LH006580	NA
P 252	Evaporative Cooling Unit	Arvin (appearing)	Same as ES-143A	NA
P 256	Not in scope			
P 259	Evaporative Cooling Unit	Arvin (appearing)	Same as ES-143A	NA
S 283	Evaporative Cooling Units (2 each)	NA	NA	NA
	Window HP Unit	NA	NA	NA
S 286	Pad Mounted Package Gas Heat / Mech Cool	Carrier (2 each)	48LH006580	NA
P 287	Rooftop Unit	Trane	SBZB2006MB34C24D6	B4F00241
S 288	Pad Mounted Package Gas Heat / Mech Cool	Carrier (2 each)	48LH006580	NA
S 290	Air Cooled Chiller	Trane	CGAC25BRM	591276
	4 total Window A/C's & Heat Pumps	Carrier & Sears	See Notes	See Notes
S 291	Split System Air Cooled Condensing	NA	NA	NA
P 295	Chiller to Room FCU's	McQuay	AHR-054CD	A342600
P 301	Bldg: Air Cooled Condensing	Trane	RUAC B624-A	C81H-02942
	Cmptr Rm A/C: A-C Condensing	Contempo Engr Co	CEMA-2034	18951 J84
	Cmptr Rm A/C: A-C Condensing	Data Aire (3 each)	DAAD-2034	87-1352,4&5-A

TABLE F-3 SUMMARY OF COOLING EQUIPMENT SERVING EEAP BUILDINGS SPACE & PROCESS COOLING REQUIREMENTS

Fac No.	Cooling System Descriptions			
	System Description	Manufacturer	Model Number	Serial Number
P 642	No Cooling System	-	-	-
S 2201	Window Type / Thru Wall Heat Pump	Zone-Aire, ZMO Inc.	CSM311350	187-120026
Totals				

TABLE F-3 SUMMARY OF COOLING EQUIPMENT SERVING EEAP BUILDINGS SPACE &amp; PROCESS COOLING REQUIREMENTS

Cooling System Descriptions			
System Description	Manufacturer	Model Number	Serial Number
BUILDING 80 POST EXCHANGE: PRODUCT COOLERS AND CONDENSING UNITS			
PRODUCT CASES			
1. Product Case 1	Hussmann	1S06T1FG1	210878DX
2. Product Case 2	Tyler	X04FG12 Code 4208	NA
3. Product Case 3	Tyler	AFG6 1276 Code 807409W	NA
4. Product Case 4	NA	NA	NA
5. Product Case 5	Beverage Air	MT66	NA
6. Product Case 6	Beverage Air	MT65	NA
7. Product Case 7	True	GDM-46	NA
8. Walk-In Box	Bally Cold Box	BA-200A	NA
Evaporator in Walk-In Box	Bally Cold Box	BA-300A	NA
Evaporator in Walk-In Box	Bally Cold Box	BF-100A (2 each)	NA
CONDENSING UNITS			
Product Cooler Condensing Unit	Copelamatic	LAL 1 0310TAC	07C 75C 15227
Product Cooler Condensing Unit	Tyler	TTH8300 Code 3526	S0 801766W
Product Cooler Condensing Unit	Tyler	THS-300-502L Code 3526	268574SN
Product Cooler Condensing Unit	Copeland	LAHI-0310-TAC	NA
BUILDING 182 COMMISSARY: PRODUCT COOLERS AND CONDENSING UNITS			
PRODUCT CASES			
1. Ice Cream	NA	NA	NA
2. Frozen Pizza	NA	NA	NA
3. Frozen Vegetables	NA	NA	NA
4. Dairy Chiller	Hussmann	DM12ZHU	NA
5. Meat Chiller	Hussmann	MHF12U	NA
6. Produce	Hussmann	PH12U	NA
7. Produce	Hussmann	PH12U	NA
CONDENSING UNITS			
Condensing Unit - Air Cooled	Hussmann	HOCA0915 RLKXU	9061-004
Condensing Unit - Air Cooled (4 each)	Hussmann	HOCA0313VHKXU	NA
BUILDING 172 COMMISSARY COLD STORAGE - COLD BOXES (units numbered in sequence with Bldg. 182 product cooler COLD BOXES			
8. Walk-in Cold Box	Barrons Metal Products	MIL Spec: MILR10932E	NA
9. Walk-in Cold Box	Barrons Metal Products	MIL Spec: MILR10932E	NA
10. Walk-in Cold Box	Barrons Metal Products	MIL Spec: MILR10932E	NA
11. Walk-in Cold Box	Kolpak	NA	NA
12. Walk-in Cold Box	Kolpak	NA	NA
CONDENSING UNITS			

TABLE F-3 SUMMARY OF COOLING EQUIPMENT SERVING EEAP BUILDINGS SPACE & PROCESS COOLING REQUIREMENTS

Cooling System Descriptions			
System Description	Manufacturer	Model Number	Serial Number
8. Condensing Unit	Heatcraft	TRH-020-AL53F	WUH00040
9. Condensing Unit	Heatcraft	TRH-020-AL53F	WUH00033
10. Condensing Unit	Heatcraft	TRH-020-AL53F	WUH00045
11. Condensing Unit	Copeland	EBAM-A075-TAC-001	NA
12. Condensing Unit	Copeland	EBAM-A075-TAC-001	NA
BUILDING 241 WALK-IN COLD BOX	Marvair	24VP-8-D83-AA	176

TABLE F-4 EXISTING DOMESTIC HOT WATER SYSTEM SUMMARY

Fac No.	Installation Name	Domestic Hot Water Use				Domestic Hot Water Heating System Data				
		Usage Code	PN	Days /Week	Meals /Day	Fuel Used	System Type	Volume Gallons	Capacity BTUH	Actual Temp
T 6	Family Housing NCO & Enl	10	3	7	15	Propane	HWH	40	29,000	135
P 41A	Family Housing NCO & Enl	10	4	7	12	Propane	HWH	50	36,000	140
P 41B	Family Housing NCO & Enl	10	4	7	12	Propane	HWH	50	36,000	140
P 42A	Family Housing NCO & Enl	10	4	7	12	Propane	HWH	50	36,000	140
P 42B	Family Housing NCO & Enl	10	4	7	12	Propane	HWH	50	36,000	140
P 43A	Family Housing NCO & Enl	10	4	7	12	Propane	HWH	50	36,000	140
P 43B	Family Housing NCO & Enl	10	4	7	12	Propane	HWH	50	36,000	140
P 44A	Family Housing NCO & Enl	10	4	7	12	Propane	HWH	50	36,000	140
P 44B	Family Housing NCO & Enl	10	4	7	12	Propane	HWH	50	36,000	140
P 45A	Family Housing NCO & Enl	10	4	7	12	Propane	HWH	50	36,000	140
P 45B	Family Housing NCO & Enl	10	4	7	12	Propane	HWH	50	36,000	140
P 46	Family Housing CG & WO	10	4	7	12	Propane	HWH	50	36,000	145
P 47	Family Housing CG & WO	10	4	7	12	Propane	HWH	50	36,000	145
P 51A	Family Housing NCO & Enl	10	4	7	12	Propane	HWH	50	36,000	140
P 51B	Family Housing NCO & Enl	10	4	7	12	Propane	HWH	50	36,000	140
P 52A	Family Housing NCO & Enl	10	4	7	12	Propane	HWH	50	36,000	140
P 52B	Family Housing NCO & Enl	10	4	7	12	Propane	HWH	50	36,000	140
P 53	Family Housing CG & WO	10	4	7	12	Propane	HWH	50	36,000	140
P 54	Family Housing CG & WO	10	4	7	12	Propane	HWH	50	36,000	140
P 55	Family Housing CG & WO	10	4	7	12	Propane	HWH	50	36,000	140
P 56	Family Housing CG & WO	10	4	7	12	Propane	HWH	50	36,000	140
P 57	Family Housing CG & WO	10	4	7	12	Propane	HWH	50	36,000	140
P 58	Family Housing CG & WO	10	4	7	12	Propane	HWH	50	36,000	140
P 59	Family Housing CG & WO	10	4	7	12	Propane	HWH	50	36,000	140
P 60	Family Housing CG & WO	10	4	7	12	Propane	HWH	50	36,000	140
S 79	Post Office, Main	8	2	6	0	None	None	-	-	-
P 80	Exchange, Main Retail	8	60	7	0	Electric	HWH	80	18 kW	135
P 81	Theater with Dressing Rm's	6	350	3	-	Electric	HWH	20 & 40	2 kW & 4.5 kW	135
P 101	Open Din Cons (Hacienda) Club (Bar) Hacienda, Dwellings	7	17	7	120	Propane	HWH	100	251,000	160
		9	9	7	10	Propane	HWH	40	29,000	140
		3	10	7	-	Propane	HWH	83	200,000	140
		10	9	7	9	Propane	HWH	100	240,000	140
P 116	Exchange Service Station (Non-shop areas)	2	2	7	0	Electric	HWH	5	4.5 kW	120
		8	8	7	0		same unit			
T 120	Fire Station - Office	1	7	7	-	Propane	HWH-Circ	100	240,000	110
	Fire Station - Dorm	4	7	7	21	Propane	HWH-Circ	100	240,000	140
	Fire Station - Garage	2	-							
T 121	Bowling Center	5	10	5	10	Propane	HWH	31	37,000	121
		2	-	5	-	Electric	HWH	6	1.25 kW	142
T 124	Family Housing LC & MJ	10	4	7	12	Propane	HWH	40	34,000	160
T 127	Officers Quarters Military	3	10	7	0	Propane	HWH	100	240,000	128
P 128	Officers Quarters Military	4	80	7	160	Propane	BLR/TK-2Circ	100	240,000	140
T 131	Family Housing CG & WO	10	4	7	12	Propane	HWH	40	29,000	135
S 144	Gymnasium	5	Not in Use			Propane	HWH	69	500,000	NA
S 146	FE Facility	2	5	5	0	None	-	-	-	-
T 149	Family Housing NCO & Enl	10	4	7	12	Propane	HWH	40	29,000	135
T 156	FE Facility - Shop	2	3	5	0	Electric	HWH	6	1.65 kW	140
	FE Facility - Office	1								
T 158	Vehicle Storage	2	0	0	0	None	-	-	-	-
T 161	Admin General Purpose	1	12	5	0	None	-	-	-	-
T 162	Elec Maint. Shop	2	11	5	0	None	-	-	-	-
T 163	Officers Quarters Military	3	NA	NA	NA	NA	-	-	-	-



TABLE F-4 EXISTING DOMESTIC HOT WATER SYSTEM SUMMARY

Fac No.	Installation Name	Domestic Hot Water Use				Domestic Hot Water Heating System Data				
		Usage Code	PN	Days /Week	Meals /Day	Fuel Used	System Type	Volume Gallons	Capacity BTUH	Actual Temp
S 290	Electron Equip Facility	2	15	5	0	Propane	HWH-C	100	197,000	135
S 291	Cont Humid Warehouse	2	6	5	0	None	None	-	-	-
P 295	Enl Barracks w/o Dining	3	114	7	0	Propane	BLR/TK-2Circ	1,700	3,250,000	128
P 301	ADP Building	1	20	7	0	Electric	HWH	5	1.5 kW	132
P 642	Detached Latrine/Shower	3.1	20	7	0	Propane	HWH/TK-Circ	80 & 350	180,000	130
S 2201	Control Tower - Range SPT	1	1	Few	0	None	None	-	-	-





### TABLE F-5 BUILDING LIGHTING SYSTEM SUMMARY

Fac No.	Installation Name	Existing Interior Light Fixtures (Number Each)	* Indicates only those fixtures subject to retrofit
T 120	Fire Station - Office	79	14
	Fire Station - Dorm	57	20 (8)
	Fire Station - Garage		
T 121	Bowling Center		
T 124	Family Housing LC & MJ		1
T 127	Officers Quarters Military		
P 128	Officers Quarters Military	50	50
T 131	Family Housing CG & WO		1
S 144	Gymnasium		
S 146	FE Facility	31	
T 149	Family Housing NCO & Enl	1	
T 156	FE Facility - Shop	3	
	FE Facility - Office		
T 158	Vehicle Storage	3	
T 161	Admin General Purpose	7	25
T 162	Elec Maint. Shop	32	
T 163	Officers Quarters Military	32	
T 164	Admin General Purpose	32	
T 165	Admin General Purpose	32	
T 166	Officers Quarters Military	32	
T 167	Officers Quarters Military	32	
S 168	General Purp Warehouse	17	
T 172	Cold Storage Warehouse	Included with building 182	
P 177	Technical Library	10	60
P 178	Child Development Cntr	2	45
S 182	Commissary	4	3
S 186	Sup Svc Admin Bldg		37
P 190	Post Chapel	1	10
S 197	Admin Bldg R&D - Office	1	22
	Admin Bldg R&D - Electronics		
S 198	General Inst Bldg	3	4
P 205	Admin General Purpose	5	15
P 205A	Company HQ Building		15



TABLE F-5 BUILDING LIGHTING SYSTEM SUMMARY

Fac No.	Installation Name	Existing Interior Light Fixtures (Number Each) * Indicates only those fixtures subject to retrofit																HPS 1,000	MH 400	MV 400	MV 1,000
		1x F40	2x F40	3x F40	4x F40	6x F40	2x F40U	1x F96	2x F96	3x F96	4x F96	1 60	1 75	1 100	1 150	1 250	1 300				
P 287	Recreation Building	11	8		55							8									
S 288	General Purpose Warehouse				32																
S 290	Electron Equip Facility		115		72																
S 291	Cont Humid Warehouse	10	29		6							2									
P 295	Enl Barracks w/o Dining		284		3							27									
P 301	ADP Building		11		143	2															
P 642	Detached Latrine/Shower		10																		
S 2201	Control Tower - Range SPT		4																		
Building Totals		218	1631	143	1912	2	198	73	102	27	0	462	31	27	35	20	23	8	21	0	9

**TABLE F-6 LIGHTING FIXTURE DATA SUMMARY**

Existing Lighting Fixtures			Retrofit Lighting Fixtures			Savings	
Ballast & Lamp Types	Fixture Watts	Avg. Lamp Life (Hrs)	Fixture Type	Fixture Watts	Avg. Lamp Life (Hrs)	Savings per Fixture (W)	
1 x F40T12	50	20,000	1 x F32T8	37	20,000	13	
2 x F40T12	72	20,000	2 x F32T8	61	20,000	11	
3 x F40T12	115	20,000	3 x F32T8	91	20,000	24	
4 x F40T12	144	20,000	4 x F32T8	122	20,000	22	
6 x F40T12	230	20,000	4 x F32T8	122	20,000	108	
1 x F96T12/HO	135	12,000	2 x F32T8	61	20,000	74	
2 x F96T12/HO	227	12,000	2 x (2)F32T8	122	20,000	105	
3 x F96T12/HO	341	12,000	2 x (3)F32T8	182	20,000	159	
4 x F96T12/HO	454	12,000	2 x (4)F32T8	244	20,000	210	
1 60	60	1,000	13W/5T4	17	10,000	43	
1 75	75	750	18W/7T4	25	10,000	50	
1 100	100	750	18W/7T4	25	20,000	75	
1 150	150	750	F32/T8	37	20,000	113	
1 250	250	750	2 x F32/T8	61	20,000	189	
1 300	300	750	2 x F32/T8	61	20,000	239	
HPS 1,000	1,090	24,000	HPS 1,000	1,090	24,000	0	
MH 400	461	24,000	MH 400	461	24,000	0	
MV 400	450	24,000	MV 400	450	24,000	0	
MV 1,000	1,080	24,000	MV 1,000	1,080	24,000	0	

# 2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHL SURVEYED BY BIH/RJB DATE 25 92  
 BUILDING NUMBER T-6 FUNCTION/USE Family Housing  
 INFORMATION SOURCE (DWG. NO./PERSON) SURVEY

## GENERAL BUILDING DATA

BUILDING AGE: 30+ YEARS

DUPLICATE BUILDING NOS: \_\_\_\_\_

TOTAL: \_\_\_\_\_

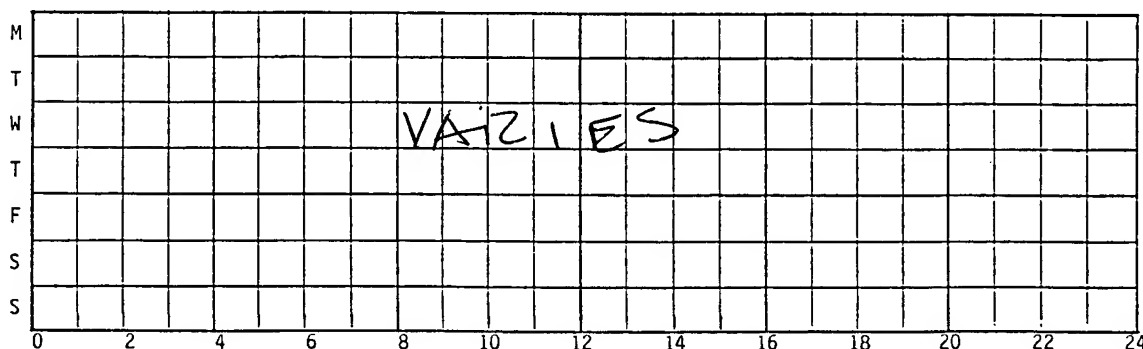
SIMILAR BUILDING NOS: 124, 131, 149

TOTAL: 3

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) ☒

NO. OF OCCUPANTS 4

Indicate (number and) duration of occupants each day



MISCELLANEOUS EQUIPMENT: TV, Stereo, Dishwasher, MW Oven  
Gas Stove 14CF Refr.

ADDITIONAL COMMENTS, CRITICAL LOADS: none

CRAWL SPACE: VENTILATED ☒ EXHAUSTED ☐

ATTIC: VENTILATED ☒ EXHAUSTED ☐



2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)

*see attached floor Plan A-1*

SOUTH ELEVATION (Show floor to ceiling elevations)

*8' eaves, peaked roof.*

BUILDING FLOOR PLAN AND  
ELEVATION SKETCHES

T-6



[illegible]

LEGEND:

WINDOW TYPES:	
1 -	DOUBLE HUNG
2 -	SINGLE HUNG
3 -	SLIDING
4 -	CASEMENT
5 -	LOWERED
6 -	FIXED GLASS

\*\*\*VISIBILITY:

E - AWNING  
F - SOLAR SCREEN  
G - OVERHANG  
OTHER - SPECIFY

\*\*\*SHADING:

A - SOLAR FILM  
B - VEN BLIND  
C - STORM WINDOW  
D - DRAPES

\*\*\*FRAME:

W - WOOD  
M - METAL  
T - METAL/THERMAL BREAK

**\*GLAZING:**

1 - ORDINARY  
2 - 1/4" PLATE  
3 - HEAT ABSORBING  
4 - TINTED

2.4 BUILDING ENVELOPE

LOCATION FHL  
BLDG. NO. T-6

CONSTRUCTION

WALL  COLOR: D ☐ M ☒ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
<i>Wood Siding</i>		
<i>Air</i>	<i>3 1/2"</i>	
<i>Gyp Bd</i>	<i>1/2</i>	
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
<i>Roof Asphalt Flt</i>	<i>3/4</i>	
<i>FF-Insul</i>	<i>5/8</i>	
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

BUILDING SKIRTING MATERIAL

ROOF (INCL. CLG.)

TYPE: F ☐ P ☐  
COLOR: D ☐ M ☐ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
<i>Shingle Comp</i>		
<i>1/2" Deck</i>		
<i>Insul</i>		<i>22</i>
<i>Gyp Bd</i>		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

3.1 HEATING EQUIPMENT

LOCATION FHL  
BLDG. NO. T6

Heat Source:

☒ Furnace ☐ Steam Boiler ☐ Hot Water Boiler ☐ Heat Pump ☐ Supplied Steam or Hot Water (External Boiler Plant) ☐ Other \_\_\_\_\_

Capacity: 34k Btu/Hr or \_\_\_\_\_ Boiler HP or \_\_\_\_\_ Lbs/Hr Steam or \_\_\_\_\_ GPM Hot Water

Manufacturer: Carrier Model No.: 38ENO30300SM

Boiler/Furnace Control: ☐ Manual ☒ Time Clock ☐ Demand ☐ EMCS ☐ O<sub>2</sub> Trim

Operating Temperature: \_\_\_\_\_ °F Operating Pressure: \_\_\_\_\_ PSI

Fuel: ☐ Nat. Gas Only ☐ Nat. Gas/ \_\_\_\_\_ Draft: ☐ Forced ☒ Induced  
☒ Other (Specify) Propane

Burner: Mfg. \_\_\_\_\_ Model No. \_\_\_\_\_ Metering Equipment: ☐ Yes ☐ No

Operating Schedule: Continuous  
Weekdays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_  
Weekdays & Holidays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_  
Operating Season: From \_\_\_\_\_ Mon/Day, to \_\_\_\_\_ Mon/Day

Flue Gas Temperature: NA °F Receiver Tank Conditions: NA PSIG NA °F

If supplied Steam or Hot Water: Steam Pressure NA PSI Hot Water Supply Temp. NA °F Hot Water Return Temp. NA °F

Insulation: (1) Boiler (2) Other (Specify) \_\_\_\_\_  
Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup> Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>  
None ☒ Temp. \_\_\_\_\_ °F None ☐ Temp. \_\_\_\_\_ °F

Pump: No. of Pumps NA V/PH/FLA \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Mfg. NA Model NA HP \_\_\_\_\_ RPM \_\_\_\_\_  
HW Pump Starter: ☐ HOA ☐ Reset P/B ☐ S/S Push Button Interlocked with Boiler? ☐ Yes ☐ No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. \_\_\_\_\_ Model \_\_\_\_\_

Condensate Pumps/Hot Water Pumps: Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_

Boiler/Furnace Condition: \_\_\_\_\_

Describe \_\_\_\_\_

Occupant Discomfort (Evaluate): \_\_\_\_\_

HEATING EQUIPMENT

# 3.2 COOLING EQUIPMENT

LOCATION FHC  
BLDG. NO. T-6

## COMPRESSOR(S)/CHILLER

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Size \_\_\_\_\_  
Refrigerant \_\_\_\_\_  
Motor HP (if available) \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

## CONDENSER/CONDENSING UNIT

Water Cooled \_\_\_\_\_  
Air Cooled X \_\_\_\_\_  
Evaporative \_\_\_\_\_  
Manufacturer CARRIER \_\_\_\_\_  
Model No. 38EN030300SM \_\_\_\_\_  
Size 5 TON \_\_\_\_\_  
Type of Fan / \_\_\_\_\_  
Fan Motor HP / \_\_\_\_\_  
Fan Motor Voltage 208 \_\_\_\_\_  
Fan Motor FLA 2.1 \_\_\_\_\_  
Measured Amps / \_\_\_\_\_

## COOLING TOWER

Gravity \_\_\_\_\_  
Mech. Draft \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Type of Fan \_\_\_\_\_  
Fan RPM \_\_\_\_\_  
Fan Motor HP \_\_\_\_\_  
Fan Motor Voltage \_\_\_\_\_  
Fan Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

## CHILLED WATER PUMPS (If more than one, how many operative during normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

## CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity, Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

REMARKS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

COOLING EQUIPMENT

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

LOCATION FHC  
BLDG. NO. 56

- a. Is System Supported from (check one):  
☐ Central Plant  
☒ One System per Building  
☐ Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: 110 °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:  
3/4" 25 FT
- d. Is Piping System Insulated and Condition: MOST HT
- e. Is Hot Water Circulated? HT
- 1) Condition of circulator - 3) Is aquastat provided? -  
 2) Circulator capacity - 4) Aquastat temperature setting -

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- a. Location CABINET
- b. Areas Served All
- c. Manufacturer and Model AMERICAN GVP433TLPG
- d. Energy (Oil, Gas, Electric, Coal, Etc.) REPAIR
- e. Type Heaters & Quantities:
- 1) Storage 40 GAL
- 2) Instantaneous -
- 3) Semi-Instantaneous -
- f. Heater Size and Storage Capacity -
- g. Heating Capacity 29 MBH 110
- h. Type Controls (Air, Steam, Electric) -
- i. When Installed & Condition -
- j. Heater Temperature Setting -
- k. Average Water Maintained Temperature -
- l. Temperature Differential (j) - (k) -
- m. Is Hot Water Supply Adequate: YES
- n. Insulation Thickness NA Type -
- o. Insulation Material NA

DOMESTIC HOT WATER SYSTEM/EQUIPMENT

LOCATION

BLDG.

FF

[illegible]

LIGHTING LEGEND:

**Lamp Types:**

Incandescent = I  
Fluorescent = F  
Sodium Vapor = SV  
Mercury Vapor = MV  
Metal Halide = MH  
Other--Describe

**Window Code:**

If there are windows, indicate:

Curtains = C  
Shades = S  
No Shading = NS

**Tasks Code:**

1 = Corridors  
2 = Kitchens  
3 = Dining  
4 = Offices-general  
5 = Offices-bookkeeping  
(ledgers only)  
6 = Offices-drafting  
7 = Laundry  
8 = Toilets  
9 = Sleeping quarters  
10 = Supply rooms  
11 = Repair shops  
12 = Storage room  
13 = Retail store  
(PX, commissary)  
Other (describe on  
audit form)  
E = Exterior



LOCATION 7th  
BLDG. NO. T-60

4.2 LIGHTING (continued)

4.2.2 Exterior Lighting

ACTUAL NO. OF FIXTURES	TYPE OF FIXTURE	NO. OF FIXTURES IN USE	WATTS/ FIXTURE	TOTAL WATTS	CONTROL TYPE*	REMARKS
<u>1</u>	<u>I</u>	<u>1</u>	<u>60</u>	<u>60</u>	<u>M</u>	

\* M = Manual    T = Timer    P = Photocell    Enter schedule under Remarks.

CALCULATIONS

WATTS OF INTERIOR LIGHTING

Actual at time of survey \_\_\_\_\_

Total installed \_\_\_\_\_

WATTS OF EXTERIOR LIGHTING

Actual on at time of survey \_\_\_\_\_

Total installed \_\_\_\_\_

LIGHTING-EXTERIOR

LOCATION PH  
BLDG. NO. T-6

#### 4.3 POWER USAGE SURVEY

##### 4.3.1 CRITICAL LOAD (Computer, Communications)

Describe: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4.3.2 RECEPTACLES IN USE 80 PERCENT

##### 4.3.3 SMALL APPLIANCES IN USE (ENTER COUNT)

Water Cooler \_\_\_\_\_

Vending Machine \_\_\_\_\_

Space Heater \_\_\_\_\_

Coffee Pot ✓

TV ✓

XEROX \_\_\_\_\_

Other:

TV \_\_\_\_\_

STEREO \_\_\_\_\_

M-WAVE \_\_\_\_\_

\_\_\_\_\_

POWER USAGE SURVEY

LOCATION FtH SURVEYED BY BIL/RJB DATE Oct 92  
BUILDING NUMBER P-46 FUNCTION/USE Family Housing  
INFORMATION SOURCE (DWG. NO./PERSON) Survey

BUILDING AGE: 15 YEARS

DUPLICATE BUILDING NOS: \_\_\_\_\_

TOTAL:

SIMILAR BUILDING NOS: 54

TOTAL: 1

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) ☒ NO. OF OCCUPANTS 3

Indicate (number and) duration of occupants each day

A blank coordinate grid with a vertical axis labeled M, T, W, T, F, S, S and a horizontal axis labeled 0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24. The word 'YARIES' is handwritten in the center of the grid.

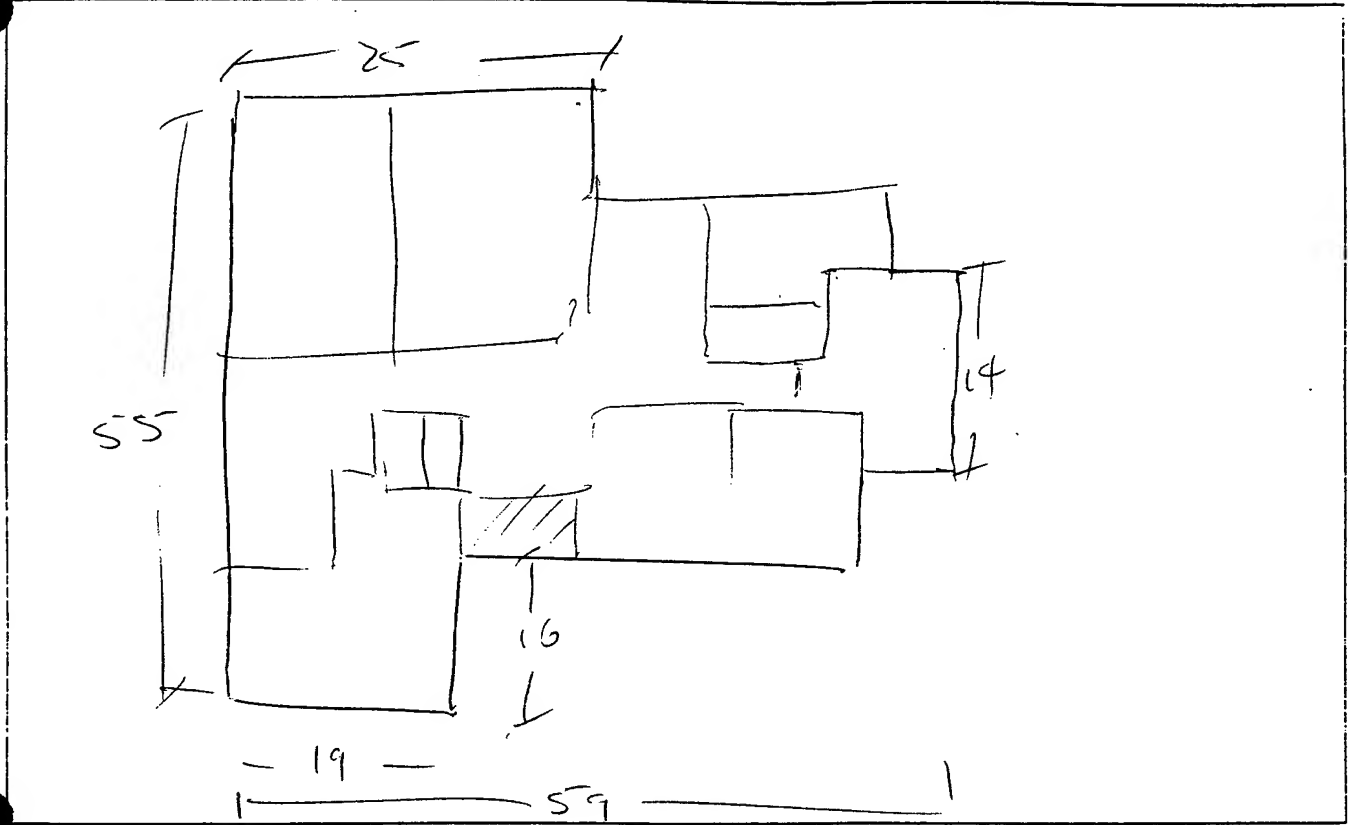
MISCELLANEOUS EQUIPMENT: NA

ADDITIONAL COMMENTS, CRITICAL LOADS: NA

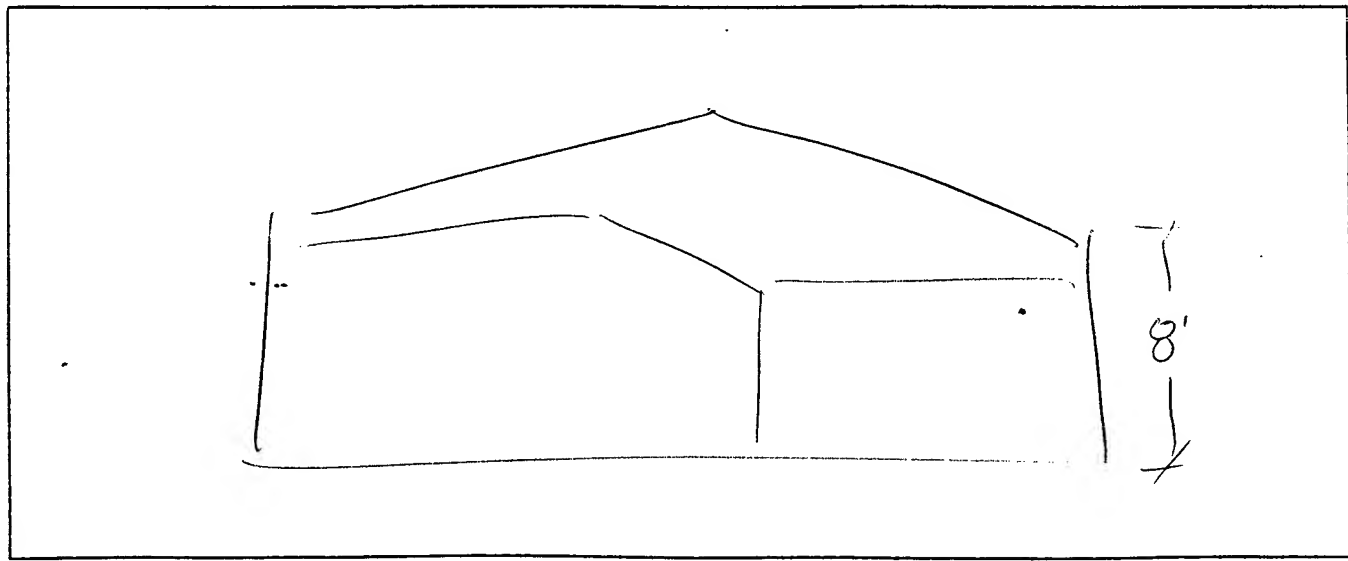
CRAWL SPACE: VENTILATED ☐ EXHAUSTED ☐

ATTIC: VENTILATED ☒ EXHAUSTED ☐

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



U-VALUE	TOTAL AREA

*GLAZING:	**FRAME:	***SHADING:	****VISIBILITY:	*****WINDOW TYPES:
1 - ORDINARY	W - WOOD	A - SOLAR FILM	E - AWNING	1 - DOUBLE HUNG
2 - 1/4" PLATE	M - METAL	B - VEN BLIND	F - SOLAR SCREEN	2 - SINGLE HUNG
3 - HEAT ABSORBING	T - METAL/THERMAL BREAK	C - STORM WINDOW	G - OVERHANG	3 - SLIDING
4 - TINTED		D - DRAPES	OTHER - SPECIFY	6 - FIXED GLASS

# 2.4 BUILDING ENVELOPE

LOCATION Flt  
BLDG. NO. P-46

## CONSTRUCTION

WALL  COLOR: D ☐ M ☐ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		.25
Stucco		.32
PLYWOOD		.62
1" RIGID		4
3" BATT		11
GYP BOARD		.56
INSIDE FILM		.68
TOTAL		17.43

U-FACTOR  AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

BUILDING SKIRTING MATERIAL

## ROOF (INCL. CLG.)

TYPE: F ☐ P ☐  
COLOR: D ☐ M ☐ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.25
ROOF TILES		0.8
PLYWOOD		0.62
SPACE		0.61
8" BATT		22
GYP BOARD		0.56
INSIDE FILM		25.45
TOTAL		

U-FACTOR  AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

# 3.1 HEATING EQUIPMENT

LOCATION FHL  
BLDG. NO. P-46

Heat Source:

☒ Furnace ☐ Steam Boiler ☐ Hot Water Boiler ☐ Heat Pump ☐ Supplied Steam or Hot Water (External Boiler Plant) ☐ Other \_\_\_\_\_

Capacity: 80 MBtu/Hr <sup>1W</sup> or \_\_\_\_\_ Boiler HP or \_\_\_\_\_ Lbs/Hr Steam or \_\_\_\_\_ GPM Hot Water

Manufacturer: STYER GENERAL Model No.: QUADRAFIRE

Boiler/Furnace Control: ☐ Manual ☐ Time Clock ☒ Demand ☐ EMCS ☐ O<sub>2</sub> Trim

Operating Temperature: NA °F Operating Pressure: NA PSI

Fuel: ☐ Nat. Gas Only ☐ Nat. Gas/ \_\_\_\_\_ Draft: ☐ Forced ☒ Induced  
☒ Other (Specify) PROPANE

Burner: Mfg. NA Model No. NA Metering Equipment: ☐ Yes ☐ No

Operating Schedule: Weekdays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day

24 hrs/day Weekdays & Holidays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day

Operating Season: From \_\_\_\_\_ Mon/Day, to \_\_\_\_\_ Mon/Day

Flue Gas Temperature: NA °F Receiver Tank Conditions: NA PSIG NA °F

If supplied Steam or Hot Water: Steam Pressure NA PSI Hot Water Supply Temp. NA °F Hot Water Return Temp. NA °F

Insulation: (1) Boiler (2) Other (Specify) \_\_\_\_\_  
Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup> Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>  
None ☒ Temp. \_\_\_\_\_ °F None ☐ Temp. \_\_\_\_\_ °F

Pump: No. of Pumps NA V/PH/FLA NA / NA / NA  
Mfg. NA Model NA HP NA RPM NA  
HW Pump Starter: ☐ HOA ☐ Reset P/B ☐ S/S Push Button Interlocked with Boiler? ☐ Yes ☐ No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. \_\_\_\_\_ Model \_\_\_\_\_

Condensate Pumps/Hot Water Pumps: Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_

Boiler/Furnace Condition: \_\_\_\_\_

Describe \_\_\_\_\_

Occupant Discomfort (Evaluate): \_\_\_\_\_

HEATING EQUIPMENT

COMPRESSOR(S)/CHILLER

Manufacturer	<u>NA</u>	<u>NA</u>
Model No.		
Size		
Refrigerant		
Motor HP (if available)		
Motor Voltage		
Motor FLA		
Measured Amps	<u>NA</u>	<u>NA</u>

CONDENSER/CONDENSING UNIT

Water Cooled		
Air Cooled	<u>X</u>	
Evaporative		
Manufacturer	<u>CARRIER</u>	
Model No.	<u>38E1030310</u>	
Size	<u>5-TON</u>	
Type of Fan	<u>CONDENSER</u>	
Fan Motor HP	<u>1/8</u>	
Fan Motor Voltage	<u>208</u>	
Fan Motor FLA	<u>0.9</u>	
Measured Amps	<u>10.5</u>	

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: \_\_\_\_\_)

Manufacturer	<u>NA</u>	<u>NA</u>
Model No.		
Capacity, Gals.		
Head, Ft.	<u>NA</u>	
Motor HP		
Motor Voltage		
Motor FLA		
Measured Amps	<u>NA</u>	<u>NA</u>

COOLING TOWER

Gravity	<u>NA</u>	<u>NA</u>
Mech. Draft		
Manufacturer		
Model No.		
Type of Fan		
Fan RPM		
Fan Motor HP		
Fan Motor Voltage		
Fan Motor FLA		
Measured Amps	<u>NA</u>	<u>NA</u>

CHILLED WATER PUMPS (If more than one, how many operative during normal operation: \_\_\_\_\_)

Manufacturer	<u>NA</u>	<u>NA</u>
Model No.		
Capacity Gals.		
Head, Ft.		
Motor HP		
Motor Voltage		
Motor FLA		
Measured Amps	<u>NA</u>	<u>NA</u>

REMARKS: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



# 3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

LOCATION FH  
BLDG. NO. 12-46

- a. Is System Supported from (check one): ☐ Central Plant ☒ One System per Building  
☐ Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: 120 °F \_\_\_\_\_ °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:  
3/4" 25 FT
- d. Is Piping System Insulated and Condition: SOME
- e. Is Hot Water Circulated? NO
- 1) Condition of circulator NA 3) Is aquastat provided? NA
- 2) Circulator capacity NA 4) Aquastat temperature setting NA

## DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- a. Location CABINET
- b. Areas Served ALL
- c. Manufacturer and Model DAYTON
- d. Energy (Oil, Gas, Electric, Coal, Etc.) PROPANE
- e. Type Heaters & Quantities:
- 1) Storage ✓
- 2) Instantaneous \_\_\_\_\_
- 3) Semi-Instantaneous \_\_\_\_\_
- f. Heater Size and Storage Capacity \_\_\_\_\_
- g. Heating Capacity 34 MBH input
- h. Type Controls (Air, Steam, Electric) ELECTRIC
- i. When Installed & Condition NEW
- j. Heater Temperature Setting 120
- k. Average Water Maintained Temperature 120
- l. Temperature Differential (j) - (k) 0
- m. Is Hot Water Supply Adequate: YES
- n. Insulation Thickness NONE Type \_\_\_\_\_
- o. Insulation Material \_\_\_\_\_

DOMESTIC HOT WATER SYSTEM/EQUIPMENT

CONTROL SYSTEM:

CONTROLLERS:

☐

ELECTRIC

☐

PNEUMATIC

☐

ELECTRONIC

OPERATION:

☐

MANUAL

☐

CONTINUOUS

☐

DEMAND

☒

TIME CLOCK

☐

EMCS

MFG \_\_\_\_\_ MODEL \_\_\_\_\_ LOCATION \_\_\_\_\_

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

PROGRAMMABLE T-STAT BECOMES UNPROGRAMMED  
AFTER A POWER OUTAGE

2711

[illegible]

### LIGHTING LEGEND:

**Fixture Types:**  
 Recessed = R  
 Suspended = S  
 Ventilated = V  
 Pole Mounted = PM  
 Other--Describe

**Lamp Types:**

- Incandescent =
- Fluorescent =
- Sodium Vapor =
- Mercury Vapor =
- Metal Halide =
- Other--Describe

**Window Code:**

If there are windows, indicate:

Curtains = C  
Shades = S  
No Shading = NS

Tasks Code:	
1 = Corridors	6 = Offices-drafting
2 = Kitchens	7 = Laundry
3 = Dining	8 = Toilets
4 = Offices-general	9 = Sleeping quarters
5 = Offices-bookkeeping (ledgers only)	10 = Supply rooms
	11 = Repair shops
	12 = Storage room
	13 = Retail store (PX, commissary)
	Other (describe on audit form)
	E = Exterior

LOCATION FHL  
BLDG. NO. P-46

#### 4.3 POWER USAGE SURVEY

##### 4.3.1 CRITICAL LOAD (Computer, Communications)

Describe: NONE  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4.3.2 RECEPTACLES IN USE 90 PERCENT

##### 4.3.3 SMALL APPLIANCES IN USE (ENTER COUNT)

Water Cooler \_\_\_\_\_

Vending Machine \_\_\_\_\_

Space Heater \_\_\_\_\_

Coffee Pot \_\_\_\_\_

TV \_\_\_\_\_

XEROX \_\_\_\_\_

Other: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

POWER USAGE SURVEY

# 2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHC SURVEYED BY BIT/RJB DATE 05'92  
 BUILDING NUMBER P-51A FUNCTION/USE FAMILY HOUSING  
 INFORMATION SOURCE (DWG. NO./PERSON) SURVEY

## GENERAL BUILDING DATA

BUILDING AGE: 1 YEAR YEARS

DUPLICATE BUILDING NOS: \_\_\_\_\_

TOTAL: \_\_\_\_\_

SIMILAR BUILDING NOS: 41A

TOTAL: 2

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) ☐

NO. OF OCCUPANTS 3

Indicate (number and) duration of occupants each day

M																						
T																						
W																						
T																						
F																						
S																						
S																						
	0	2	4	6	8	10	12	14	16	18	20	22	24									

MISCELLANEOUS EQUIPMENT: \_\_\_\_\_

ADDITIONAL COMMENTS, CRITICAL LOADS: \_\_\_\_\_

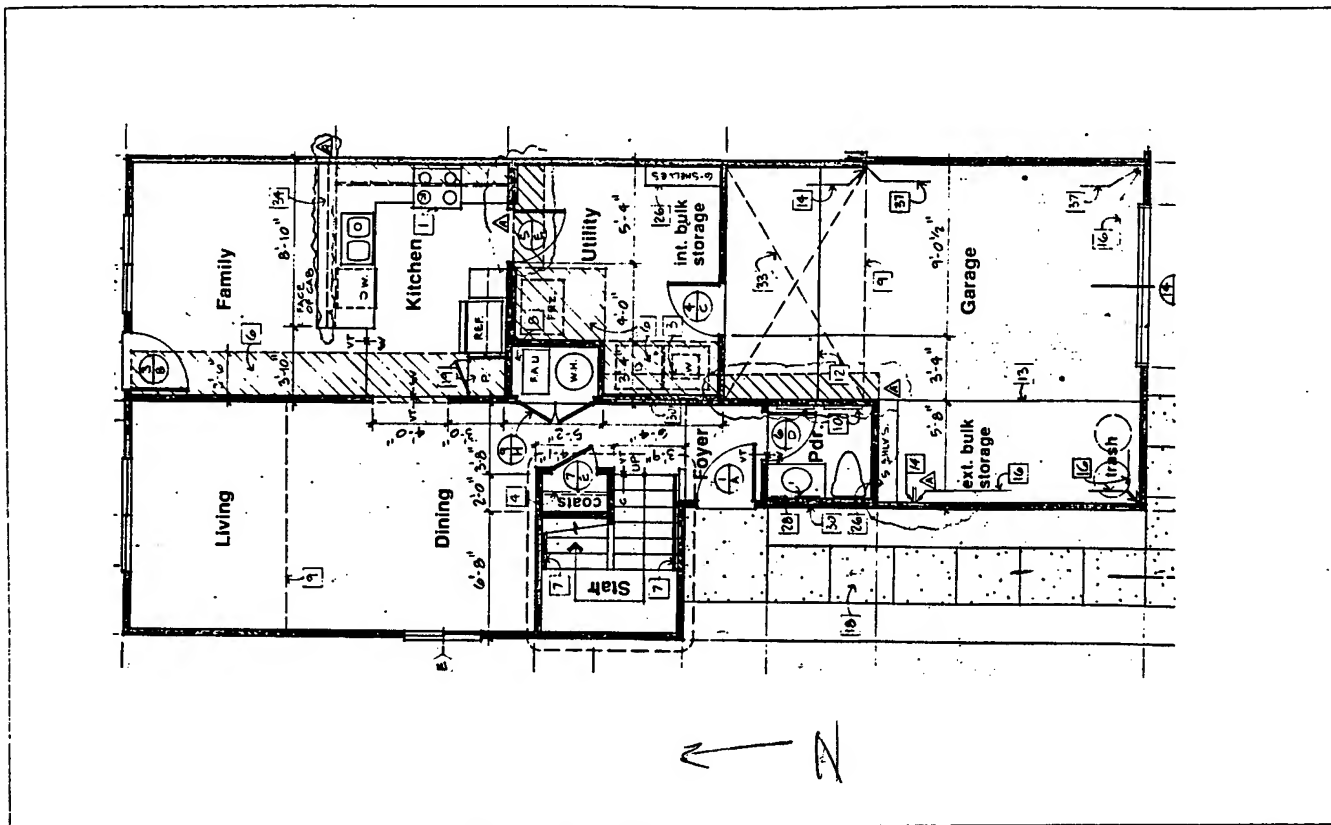
CRAWL SPACE: VENTILATED ☐ EXHAUSTED ☐

ATTIC: VENTILATED ☒ EXHAUSTED ☐

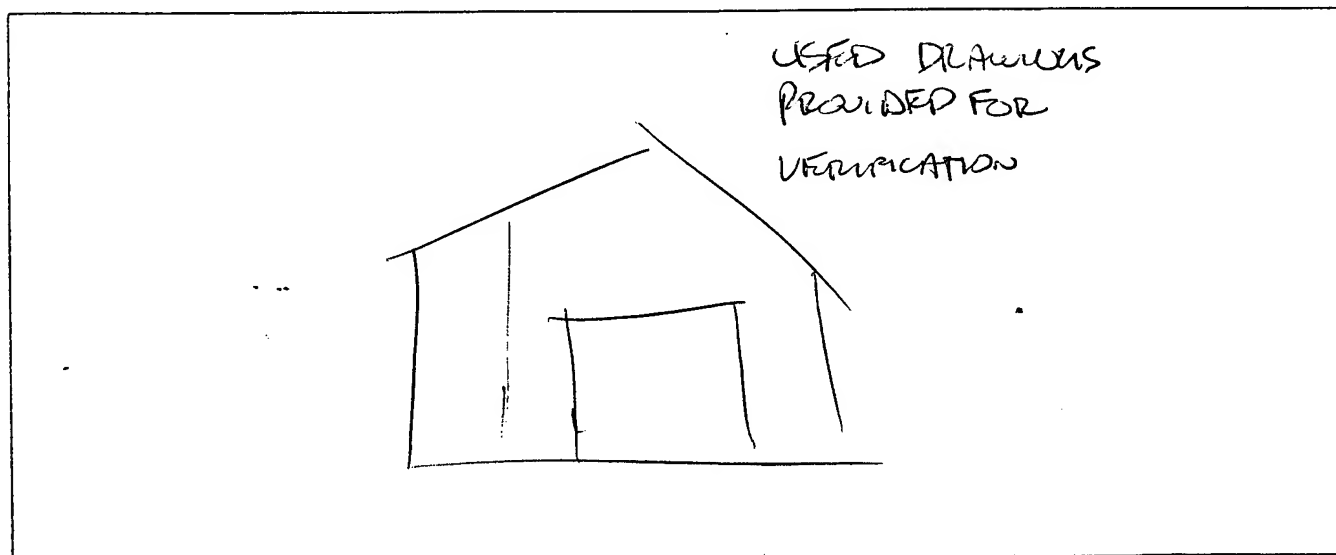
2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

LOCATION TH  
BLDG. NO. P-51A

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



BUILDING FLOOR PLAN AND  
ELEVATION SKETCHES

TOTAL AREA	725	U-VALUE	
------------	-----	---------	--

LEGEND:

1 - ORDINARY  
2 - 1/4" PLATE  
3 - HEAT ABSORBING  
4 - TINTED

W - WOOD  
M - METAL  
T - METAL/THERMAL BREAK

A - SOLAR FILM  
B - VEN BLIND  
C - STORM WINDOW  
D - DRAPES

E - AWNING  
F - SOLAR SCREEN  
G - OVERHANG  
OTHER - SPECIFY

1 - DOUBLE HUNG	4 - CASEMENT
2 - SINGLE HUNG	5 - LOUVERED
3 - SLIDING	6 - FIXED GLASS

2.4 BUILDING ENVELOPE

LOCATION PHC  
BLDG. NO. D-51A

CONSTRUCTION

WALL  COLOR: D ☐ M ☐ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		.25
INSULATION		.32
PLYWOOD		.62
1" RIGID		4
3" BATT		11
GYP BOARD		.56
INSIDE FILM		.68
TOTAL		17.43

U-FACTOR  AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

BUILDING SKIRTING MATERIAL

ROOF (INCL. CLG.)

TYPE: F ☐ P ☐  
COLOR: D ☐ M ☐ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM	0.	0.25
FLASHINGS		0.8
PLYWOOD		0.62
SPURF		0.61
8" BATT		22
GYP BOARD		0.56
INSIDE FILM		0.61
TOTAL		25.45

U-FACTOR  AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA



## 3.1 HEATING EQUIPMENT

LOCATION FAL  
BLDG. NO. P-51A

Heat Source:

☒ Furnace ☐ Steam Boiler ☐ Hot Water Boiler ☐ Heat Pump ☐ Supplied Steam or Hot Water (External Boiler Plant) ☐ Other \_\_\_\_\_Capacity: 80 MBtu/Hr or \_\_\_\_\_ Boiler HP or \_\_\_\_\_ Lbs/Hr Steam or \_\_\_\_\_ GPM Hot WaterManufacturer: SHUTER GENERAL Model No.: GUA080A012AFBoiler/Furnace Control: ☐ Manual ☒ Time Clock ☐ Demand ☐ EMCS ☐ O<sub>2</sub> Trim

Operating Temperature: \_\_\_\_\_ °F Operating Pressure: \_\_\_\_\_ PSI

Fuel: ☐ Nat. Gas Only ☐ Nat. Gas/ \_\_\_\_\_ Draft: ☐ Forced  
☒ Other (Specify) PROPANE ☐ InducedBurner: Mfg. \_\_\_\_\_ Model No. \_\_\_\_\_ Metering Equipment: ☐ Yes ☒ No

Operating Schedule: Weekdays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

24HR Weekdays & Holidays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

Operating Season: From \_\_\_\_\_ Mon/Day, to \_\_\_\_\_ Mon/Day

Flue Gas Temperature: NA °F Receiver Tank Conditions: NA PSIG NA °FIf supplied Steam or Hot Water: Steam Pressure NA PSI Hot Water Supply Temp. NA °F Hot Water Return Temp. NA °FInsulation: (1) Boiler (2) Other (Specify) NA  
Poor ☐ Area NA FT<sup>2</sup> Poor ☐ Area NA FT<sup>2</sup>  
None ☐ Temp. NA °F None ☐ Temp. NA °FPump: No. of Pumps NA V/PH/FLA NA / NA / NA  
Mfg. NA Model NA HP NA RPM NA  
HW Pump Starter: ☐ HOA ☐ Reset P/B ☐ S/S Push Button Interlocked with Boiler? ☐ Yes ☒ No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. \_\_\_\_\_ Model \_\_\_\_\_

Condensate Pumps/Hot Water Pumps: Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_

Boiler/Furnace Condition: \_\_\_\_\_

Describe \_\_\_\_\_

Occupant Discomfort (Evaluate): \_\_\_\_\_

HEATING EQUIPMENT

### 3.2

LOCATION

BLDG. NO.

COMPRESSOR(S)/CHILLER

Manufacturer	NA	NA
Model No.	NA	NA
Size	NA	NA
Refrigerant	NA	NA
Motor HP (if available)	NA	NA
Motor Voltage	NA	NA
Motor FLA	NA	NA
Measured Amps	NA	NA

CONDENSER/CONDENSING UNIT

Water Cooled	<input checked="" type="checkbox"/>
Air Cooled	<input checked="" type="checkbox"/>
Evaporative	<input type="checkbox"/>
Manufacturer	CARRIER
Model No.	38E1H030340
Size	5 TON
Type of Fan	CONTRASTA
Fan Motor HP	1/2
Fan Motor Voltage	208
Fan Motor FLA	0.9
Measured Amps	11

## COOLING TOWER

Gravity	NA	NA
Mech. Draft	NA	NA
Manufacturer	NA	NA
Model No.	NA	NA
Type of Fan	NA	NA
Fan RPM	NA	NA
Fan Motor HP	NA	NA
Fan Motor Voltage	NA	NA
Fan Motor FLA	NA	NA
Measured Amps	NA	NA

CHILLED WATER PUMPS (If more than one, how many  
operative during normal operation: \_\_\_\_\_)

Manufacturer	NA	NA
Model No.	NA	NA
Capacity Gals.	NA	NA
Head, Ft.	NA	NA
Motor HP	NA	NA
Motor Voltage	NA	NA
Motor FLA	NA	NA
Measured Amps	NA	NA

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: \_\_\_\_\_)

Manufacturer	NA	NA
Model No.		
Capacity, Gals.		
Head, Ft.		
Motor HP		
Motor Voltage		
Motor FLA		
Measured Amps	NA	NA

REMARKS:

COOLING EQUIPMENT

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

LOCATION FIR  
BLDG. NO. P-51A

- a. Is System Supported from (check one): ☐ Central Plant ☒ One System per Building  
☐ Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: 120 °F \_\_\_\_\_ °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:  
3/4" 25 FT  
\_\_\_\_\_  
\_\_\_\_\_
- d. Is Piping System Insulated and Condition: YES / PARTIAL
- e. Is Hot Water Circulated? NO
- 1) Condition of circulator NA 3) Is aquastat provided? NA  
2) Circulator capacity NA 4) Aquastat temperature setting NA

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- a. Location CABINET
- b. Areas Served ALL
- c. Manufacturer and Model DATON 3E31C
- d. Energy (Oil, Gas, Electric, Coal, Etc.) PROPANE
- e. Type Heaters & Quantities:
- 1) Storage NA
- 2) Instantaneous NA
- 3) Semi-Instantaneous NA
- f. Heater Size and Storage Capacity 40 GAL
- g. Heating Capacity 34 MBtu input
- h. Type Controls (Air, Steam, Electric) ELECTRIC
- i. When Installed & Condition NEW
- j. Heater Temperature Setting 120
- k. Average Water Maintained Temperature 120
- l. Temperature Differential (j) - (k) 0
- m. Is Hot Water Supply Adequate: YES
- n. Insulation Thickness N/A Type \_\_\_\_\_
- o. Insulation Material N/A

DOMESTIC HOT WATER SYSTEM/EQUIPMENT

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

LOCATION FHL  
BLDG. NO. P-57A

CONTROL SYSTEM:

CONTROLLERS: ☒ ELECTRIC ☐ PNEUMATIC  
☐ ELECTRONIC

OPERATION: ☐ MANUAL ☒ TIME CLOCK  
☐ CONTINUOUS ☐ EMCS  
☐ DEMAND

MFG CARRIER MODEL \_\_\_\_\_ LOCATION \_\_\_\_\_

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

SHUTS OFF AFTER POWER OUTAGES

CONTROL/MISCELLANEOUS PROCESS/SKETCHES

## LIGHTING

LOCATION

BLDG.

P-5A

17

[illegible]

LIGHTING LEGEND:

Fixture Types:

Recessed = R  
Suspended = S  
Ventilated = V  
Pole Mounted = PM  
Other--Describe

**Lamp Types:**

Incandescent = I  
Fluorescent = F  
Sodium Vapor = SV  
Mercury Vapor = MV  
Metal Halide = MH

**Window Code:**

**If there are windows, indicate:**

Curtains = C  
Shades = S  
No Shading = NS

**Tasks Code:**

1 = Corridors	6 = Offices-drafting	12 = Storage room
2 = Kitchens	7 = Laundry	13 = Retail store
3 = Dining	8 = Toilets	(PX, commissary)
4 = Offices-general	9 = Sleeping quarters	Other (describe on
5 = Offices-bookkeeping	10 = Supply rooms	audit form)
(add new)	11 = Dressing change	F = Exterior

LOCATION PH  
BLDG. NO. P-514

#### 4.2 LIGHTING (continued)

##### 4.2.2 Exterior Lighting

ACTUAL NO. OF FIXTURES	TYPE OF FIXTURE	NO. OF FIXTURES IN USE	WATTS/ FIXTURE	TOTAL WATTS	CONTROL TYPE*	REMARKS
<u>5</u>	<u>F</u>	<u>5</u>	<u>60</u>	<u>300</u>	<u>M</u>	

\* M = Manual    T = Timer    P = Photocell    Enter schedule under Remarks.

#### CALCULATIONS

##### WATTS OF INTERIOR LIGHTING

Actual at time of survey \_\_\_\_\_

Total installed \_\_\_\_\_

##### WATTS OF EXTERIOR LIGHTING

Actual on at time of survey \_\_\_\_\_

Total installed \_\_\_\_\_

LIGHTING-EXTERIOR

LOCATION FHC  
BLDG. NO. P-51A

4.3 POWER USAGE SURVEY

4.3.1 CRITICAL LOAD (Computer, Communications)

Describe: DONE  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4.3.2 RECEPTACLES IN USE 90 PERCENT

4.3.3 SMALL APPLIANCES IN USE (ENTER COUNT)

Water Cooler \_\_\_\_\_

Vending Machine \_\_\_\_\_

Space Heater \_\_\_\_\_

Coffee Pot X

TV X

XEROX \_\_\_\_\_

Other:

Refrigerator \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## 2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHL SURVEYED BY RJB DATE OCT '92  
 BUILDING NUMBER S-79 FUNCTION/USE POST OFFICE  
 INFORMATION SOURCE (DWG. NO./PERSON) VISUAL

### GENERAL BUILDING DATA

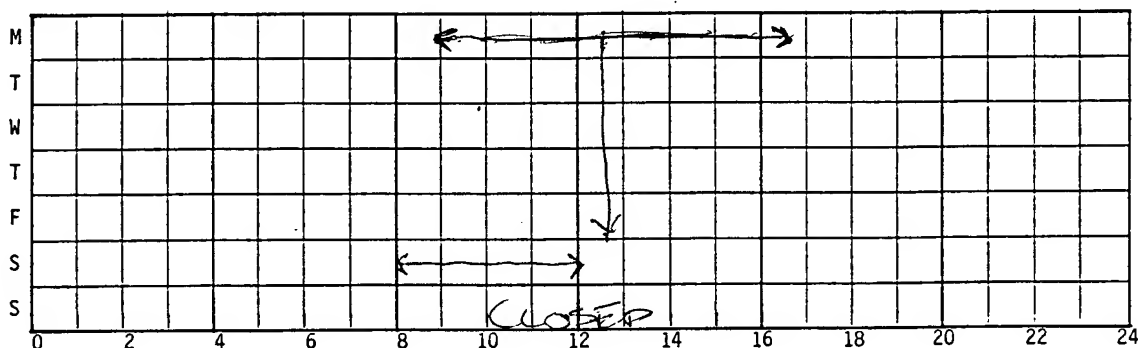
BUILDING AGE: \_\_\_\_\_ YEARS

DUPLICATE BUILDING NOS: \_\_\_\_\_  
 TOTAL: \_\_\_\_\_

SIMILAR BUILDING NOS: \_\_\_\_\_  
 TOTAL: \_\_\_\_\_

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) ☐ NO. OF OCCUPANTS 2

Indicate (number and) duration of occupants each day



MISCELLANEOUS EQUIPMENT: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

ADDITIONAL COMMENTS, CRITICAL LOADS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

CRAWL SPACE: VENTILATED ☐ EXHAUSTED ☐ NOTE

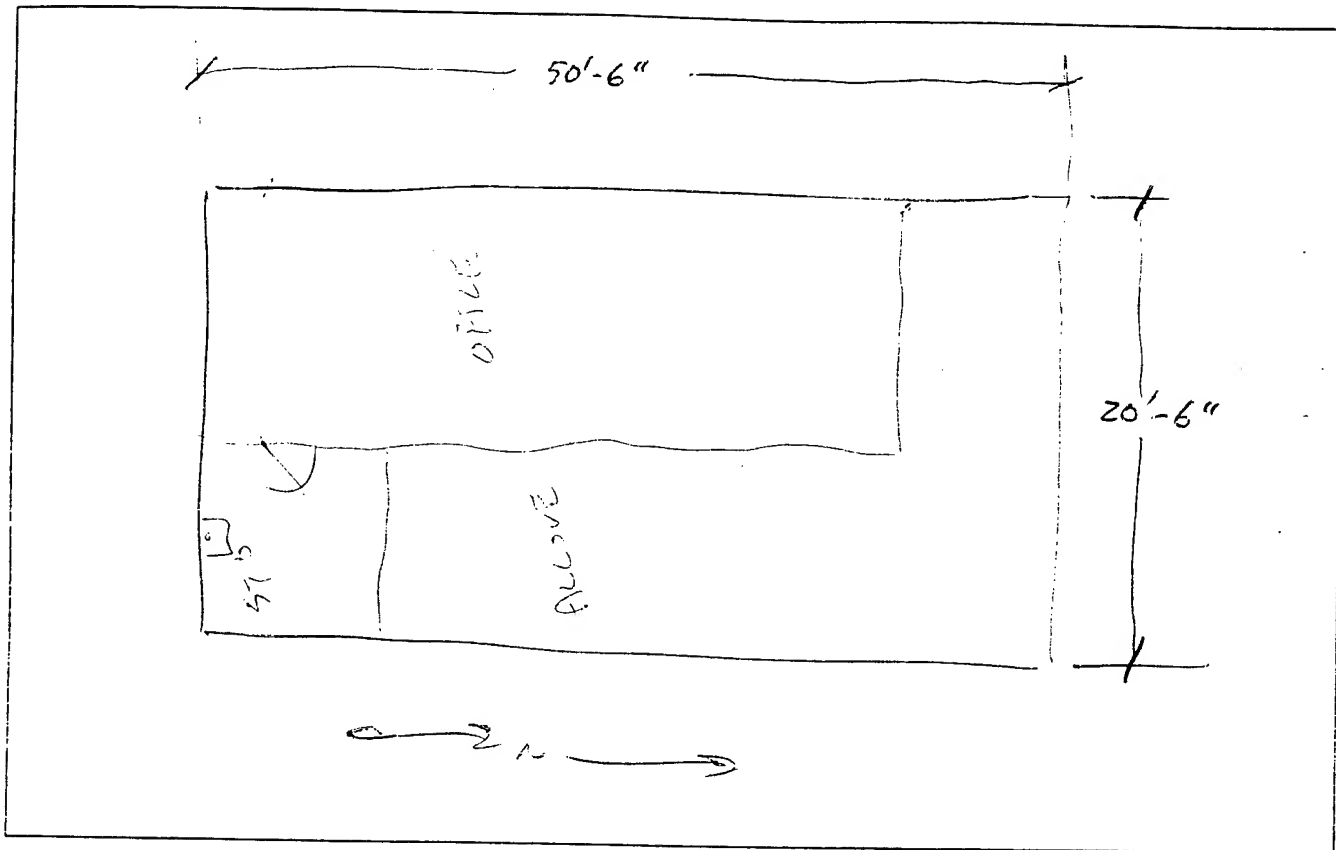
ATTIC: VENTILATED ☐ EXHAUSTED ☐  
NO NO



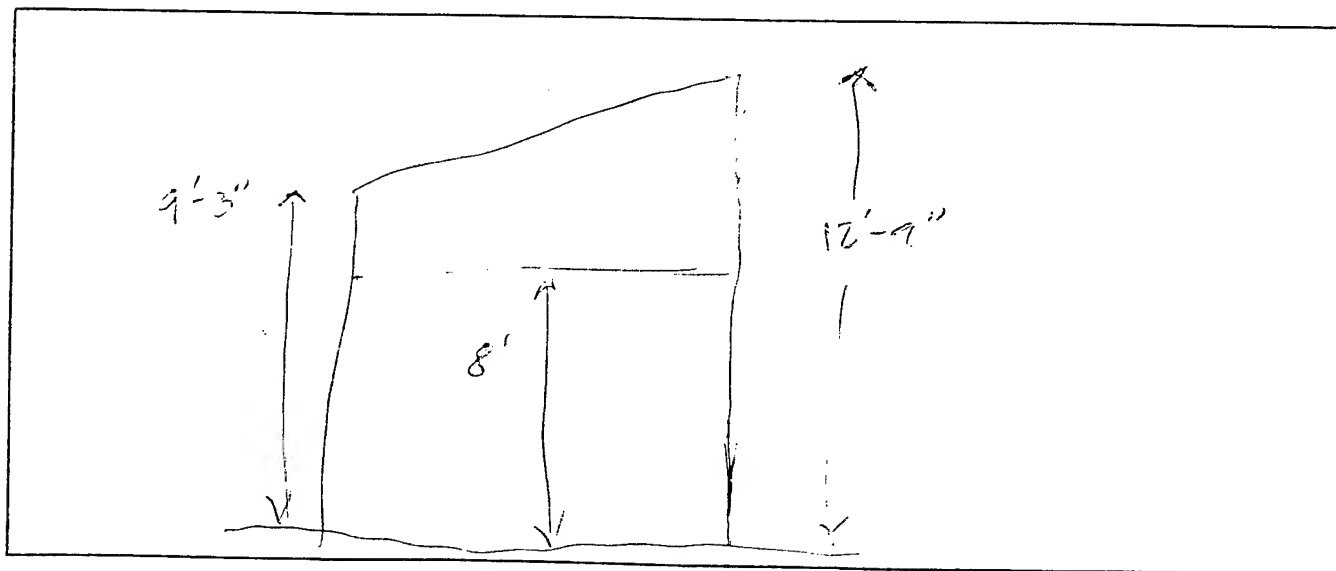
2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

LOCATION FHC  
BLDG. NO. 79

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



BUILDING FLOOR PLAN AND  
ELEVATION SKETCHES



## 2.4 BUILDING ENVELOPE

LOCATION Fit

BLDG. NO. 79

### CONSTRUCTION

WALL

COLOR: D

☐

M

☐

L

☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
CONCRETE WALL SIDE	1/8"	
STUD	2"	
MOIST BARRIER	—	
5/8 GYP	5/8"	
INSIDE FILM		
TOTAL		

U-FACTOR

AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR

AREA

BUILDING SKIRTING MATERIAL

ROOF (INCL. CLG.)

TYPE: F

☐

P

☐

COLOR: D

☐

M

☐

L

☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
1 1/4" DECK		
<del>RAIRSPACE</del>		
Red A		
STUD		
GYP CEILING		
INSIDE FILM		
TOTAL		

U-FACTOR

AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR

AREA

BUILDING ENVELOPE

2.4

3.1 HEATING EQUIPMENT

LOCATION PHC  
BLDG. NO. 79

UNIT HEATERS (small)

Heat Source:

☐ Furnace ☐ Steam Boiler ☐ Hot Water Boiler ☐ Heat Pump ☐ Supplied Steam or Hot Water (External Boiler Plant) ☒ Other ELECTRIC RESISTANCE UNIT HEATERS (2x3kW)

Capacity: \_\_\_\_\_ Btu/Hr or \_\_\_\_\_ Boiler HP or \_\_\_\_\_ Lbs/Hr Steam or \_\_\_\_\_ GPM Hot Water

Manufacturer: \_\_\_\_\_ Model No.: \_\_\_\_\_

Boiler/Furnace Control: ☒ Manual ☐ Time Clock ☐ Demand ☐ EMCS ☐ O<sub>2</sub> Trim

Operating Temperature: \_\_\_\_\_ °F Operating Pressure: \_\_\_\_\_ PSI

Fuel: ☐ Nat. Gas Only ☐ Nat. Gas/ \_\_\_\_\_ Draft: ☐ Forced ☒ Induced  
☒ Other (Specify) ELECTRIC - 2 x 3kW

Burner: Mfg. \_\_\_\_\_ Model No. \_\_\_\_\_ Metering Equipment: ☐ Yes ☐ No

Operating Schedule: Weekdays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_  
Weekdays & Holidays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_  
Operating Season: From \_\_\_\_\_ Mon/Day, to \_\_\_\_\_ Mon/Day

Flue Gas Temperature: \_\_\_\_\_ °F Receiver Tank Conditions: \_\_\_\_\_ PSIG \_\_\_\_\_ °F

If supplied Steam or Hot Water: Steam Pressure \_\_\_\_\_ PSI Hot Water Supply Temp. \_\_\_\_\_ °F Hot Water Return Temp. \_\_\_\_\_ °F

Insulation: (1) Boiler (2) Other (Specify) \_\_\_\_\_  
Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup> Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>  
None ☐ Temp. \_\_\_\_\_ °F None ☐ Temp. \_\_\_\_\_ °F

Pump: No. of Pumps \_\_\_\_\_ V/PH/FLA \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_ RPM \_\_\_\_\_  
HW Pump Starter: ☐ HOA ☐ Reset P/B ☐ S/S Push Button Interlocked with Boiler? ☐ Yes ☐ No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. \_\_\_\_\_ Model \_\_\_\_\_

Condensate Pumps/Hot Water Pumps: Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_

Boiler/Furnace Condition: \_\_\_\_\_

Describe \_\_\_\_\_

Occupant Discomfort (Evaluate): \_\_\_\_\_

HEATING EQUIPMENT

3.2 COOLING EQUIPMENT

LOCATION 1742  
BLDG. NO. 29

COMPRESSOR(S)/CHILLER

Manufacturer NA  
Model No. \_\_\_\_\_  
Size \_\_\_\_\_  
Refrigerant \_\_\_\_\_  
Motor HP (if available) \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

CONDENSER/CONDENSING UNIT

Water Cooled \_\_\_\_\_  
Air Cooled \_\_\_\_\_  
Evaporative \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Size \_\_\_\_\_  
Type of Fan \_\_\_\_\_  
Fan Motor HP \_\_\_\_\_  
Fan Motor Voltage \_\_\_\_\_  
Fan Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

COOLING TOWER

Gravity NA  
Mech. Draft \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Type of Fan \_\_\_\_\_  
Fan RPM \_\_\_\_\_  
Fan Motor HP \_\_\_\_\_  
Fan Motor Voltage \_\_\_\_\_  
Fan Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

CHILLED WATER PUMPS (If more than one, how many  
operative during normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps NA

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity, Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps NA

REMARKS: ONLY SMALL PACKAGED WINDOW UNITS

1 - @

1 - DAKIN

### 3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

LOCATION F12  
BLDG. NO. 79

a. Is System Supported from (check one):

☐ Central Plant

☐ One System per Building

☐ Several Small Systems per Building

NA

b. Domestic Hot Water Temperatures provided: \_\_\_\_\_ °F \_\_\_\_\_ °F

c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:

d. Is Piping System Insulated and Condition: \_\_\_\_\_

e. Is Hot Water Circulated? \_\_\_\_\_

1) Condition of circulator \_\_\_\_\_

3) Is aquastat provided? \_\_\_\_\_

2) Circulator capacity \_\_\_\_\_

4) Aquastat temperature setting \_\_\_\_\_

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

a. Location

b. Areas Served

c. Manufacturer and Model

d. Energy (Oil, Gas, Electric, Coal, Etc.)

e. Type Heaters & Quantities:

1) Storage

2) Instantaneous

3) Semi-Instantaneous

f. Heater Size and Storage Capacity

g. Heating Capacity

h. Type Controls (Air, Steam, Electric)

i. When Installed & Condition

j. Heater Temperature Setting

k. Average Water Maintained Temperature

l. Temperature Differential (j) - (k)

m. Is Hot Water Supply Adequate:

n. Insulation Thickness

o. Insulation Material

Type

NA

NA

DOMESTIC HOT WATER SYSTEM/EQUIPMENT

## LIGHTING

LOCATION FtK BLDG. 79

[illegible]

### LIGHTING LEGEND:

**Fixture Types:**  
 Recessed = R  
 Suspended = S  
 Ventilated = V  
 Pole Mounted = PM  
 Other--Describe

**Lamp Types:**

- Incandescent = I
- Fluorescent = F
- Sodium Vapor = SV
- Mercury Vapor = MV
- Metal Halide = MH
- Other---Describe

**Window Code:**

**If there are windows, indicate:**

Curtains = C  
Shades = S  
No Shading = NS

**Tasks Code:**

6 = Offices-drafting  
7 = Laundry  
8 = Toilets  
9 = Sleeping quarters  
10 = Supply rooms  
11 = Repair shops

1 = Corridors	6 = Offices-drafting	12 = Storage room
2 = Kitchens	7 = Laundry	13 = Retail store
3 = Dining	8 = Toilets	(PX, commissary)
4 = Offices-general	9 = Sleeping quarters	Other (describe on
5 = Offices-bookkeeping (ledgers only)	10 = Supply rooms	audit form)
	11 = Repair shops	E = Exterior

LOCATION F142  
BLDG. NO. 79

#### 4.3 POWER USAGE SURVEY

##### 4.3.1 CRITICAL LOAD (Computer, Communications)

Describe: 1 COMPUTER  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4.3.2 RECEPTACLES IN USE 80 PERCENT

##### 4.3.3 SMALL APPLIANCES IN USE (ENTER COUNT)

Water Cooler X

Vending Machine STAMP

Space Heater 2X 3KW/15AMP/208V/1P

Coffee Pot \_\_\_\_\_

TV \_\_\_\_\_

XEROX \_\_\_\_\_

Other:

REFRIG \_\_\_\_\_

2X CASSABLANCA FANS \_\_\_\_\_

1X 2 TON WESTINGHOUSE WINDOW A/C UNIT

1X 2 TON DAKIN \_\_\_\_\_

POWER USAGE SURVEY



## 2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHL SURVEYED BY B/H DATE 6 Oct 92

BUILDING NUMBER P-80 FUNCTION/USE POST EXCHANGE

INFORMATION SOURCE (DWG. NO./PERSON) WORKERS IN EACH SECTION OF BLDG

### GENERAL BUILDING DATA

BUILDING AGE: \_\_\_\_\_ YEARS *newish*

DUPLICATE BUILDING NOS: \_\_\_\_\_

TOTAL:

SIMILAR BUILDING NOS: \_\_\_\_\_

TOTAL:

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) ☐

Employees NO. OF OCCUPANTS 5  
Patrons: 50 per day

Indicate (number and) duration of occupants each day

M	Barber Shop. M-F 0900-1500 S/S = closed												1 PM + customer			
T	ADMIN OFFICES				40 H/WK				3 PM							
W																
T																
F																
S																
S																
	0	2	4	6	8	10	12	14	16	18	20	22	24			

MISCELLANEOUS EQUIPMENT: \_\_\_\_\_

ADDITIONAL COMMENTS, CRITICAL LOADS: \_\_\_\_\_

CRAWL SPACE: VENTILATED ☐ EXHAUSTED ☐ 506

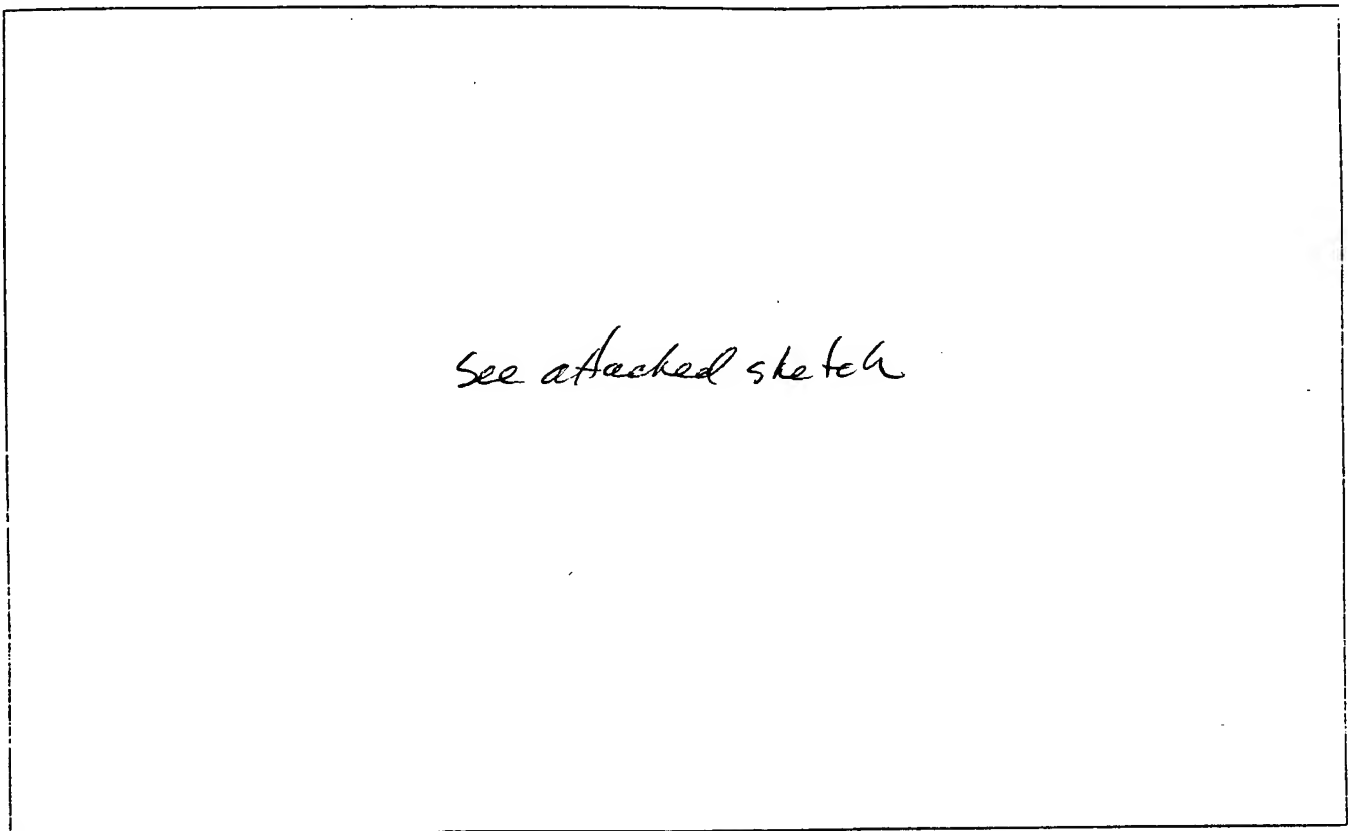
ATTIC:            VENTILATED ☒            EXHAUSTED ☐

over front (N) of bldg - no attic over remainder of bldg

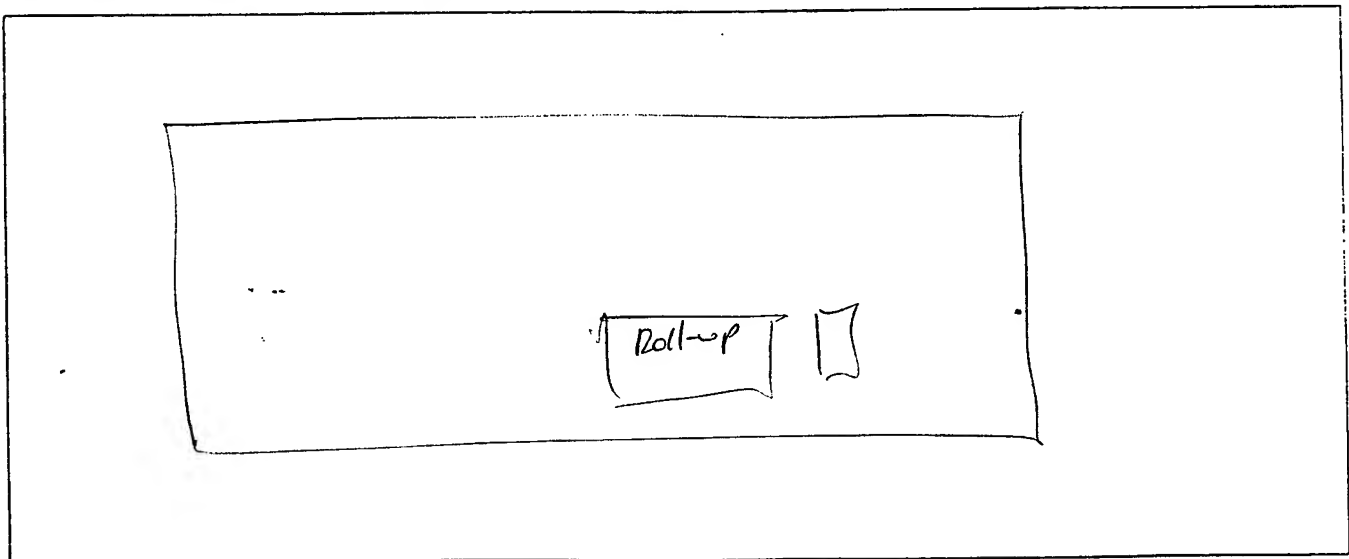
ARCHITECTURE--MISCELLANEOUS

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



BUILDING FLOOR PLAN AND  
ELEVATION SKETCHES

← 84' - 9" →

slav sb front  
overhangs

DOOR/ WINDOW DESIG.	TYPE	NUMBER EXPOSURE								SIZE L x H	GLAZING*			TYPE OF FRAME**	INFILTRATION				REMARKS *** ****
		N	NE	E	SE	S	SW	W	NW		TYPE	DBL	TRPL		W/S YES NO	FIT LOOSE AUG	CRACK LENGTH		
FRONT WINDOWS	F B									33 1/2 x 66	4		M		FIXED				
SINGLE-WINDOW DOOR	2									36 x 84			M						
LIGHTS IN SINGLE DOORS										28 x 67			M						
DOUBLE-WINDOW DOOR	1									(36 x 84) 2	4		M						
LIGHTS IN DOUBLE DOORS										(28 x 67)	4		M						
PAINTED GLASS	4									68 x 16	R		M						
"	1									24 x 16	R		M						
FIXED WINDOWS	1									78 x 16	4		M						
"	2									24 x 16	4		M						
Roll-up Door																			
Personnel Doors										34 x 80			W		✓	LOOSE			
TOTAL AREA											U-VALUE				Not counting WINDY REA-				

Not counting  
Mech & Elec  
Room Doors

## LEGEND:

## \*\*\*SHADING:

- A - SOLAR FILM  
B - VEN BLIND  
C - STORM WINDOW  
D - DRAPES

## \*\*FRAME:

- W - WOOD  
M - METAL  
T - METAL/THERMAL BREAK

## \*GLAZING:

- 1 - ORDINARY  
2 - 1/4" PLATE  
3 - HEAT ABSORBING  
4 - TINTED

## \*\*\*\*VISIBILITY:

- E - AWNING  
F - SOLAR SCREEN  
G - OVERHANG  
OTHER - SPECIFY

## WINDOW TYPES:

- 1 - DOUBLE HUNG  
2 - SINGLE HUNG  
3 - SLIDING  
4 - CASEMENT  
5 - LOUVERED  
6 - FIXED GLASS

# 2.4 BUILDING ENVELOPE

## CONSTRUCTION

WALL

ALL

COLOR: D

M

L

☒

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.25
STUCCO	3/4"	0.15
C.M.U.	6"	1.93
C.M.U.	8"	3.20
INSIDE FILM		.68
TOTAL		6.21

U-FACTOR

0.16

AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR

AREA

BUILDING SKIRTING MATERIAL

LOCATION

FHL

BLDG. NO.

80

TYPE: F

☒

P

☐

COLOR: D

☐

M

☒

L

☐

ROOF (INCL. CLG.)

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.25
B.W. ROOFING		0.33
RIGID INSUL	2"	12.50
METAL DECK	1 1/2"	0.00
INSIDE FILM		.92
TOTAL		14.00

U-FACTOR

0.07

AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR

AREA

BUILDING ENVELOPE

2.4

## 3.1 HEATING EQUIPMENT

LOCATION FHL  
BLDG. NO. 80

Heat Source:

☐ Furnace ☐ Steam Boiler ☒ Hot Water Boiler ☐ Heat Pump ☐ Supplied Steam or Hot Water (External Boiler Plant) ☐ Other \_\_\_\_\_253,700 net RatingCapacity: 29500 Btu/Hr or \_\_\_\_\_ Boiler HP or \_\_\_\_\_ Lbs/Hr Steam or \_\_\_\_\_ GPM Hot WaterManufacturer: HydrotarmModel No.: OR 385 S.U. ORF-2043293#/HR 100PSI MAXBoiler/Furnace Control: ☐ Manual ☒ Time Clock ☐ Demand ☐ EMCS ☐ O<sub>2</sub> Trim7 day in Mech Room on 0500 to 2000, no day-studs installed. TORK MN 7300

Operating Temperature: \_\_\_\_\_ °F Operating Pressure: \_\_\_\_\_ PSI

Fuel: ☐ Nat. Gas Only ☐ Nat. Gas/ \_\_\_\_\_Draft: ☐ Forced☒ Other (Specify) Propane☐ InducedBurner: Mfg. Economite Model No. RE 32PMetering Equipment: ☐ Yes ☒ NoStamped: 300000 BTU/HR MAX 50,000 BTU/HR MINhas pilot

Operating Schedule: Weekdays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

Weekdays & Holidays: From 5:00 To above Hr/Day \_\_\_\_\_

Operating Season: From \_\_\_\_\_ Mon/Day, to \_\_\_\_\_ Mon/Day

Flue Gas Temperature: \_\_\_\_\_ °F Receiver Tank Conditions: \_\_\_\_\_ PSIG \_\_\_\_\_ °F

If supplied Steam or Hot Water: Steam Pressure \_\_\_\_\_ PSI Hot Water Supply Temp. \_\_\_\_\_ °F Hot Water Return Temp. \_\_\_\_\_ °F

all insulation deteriorated.

Insulation: (1) Boiler

(2) Other (Specify) Pipe 1 1/2" φPoor ☒ Area 24 FT<sup>2</sup>Poor ☒ Area 50 CF LF 112None ☐ Temp. \_\_\_\_\_ °FNone ☐ Temp. not on °FPump: No. of Pumps 1: 1522 15-1 FR V/PH/FLA 115 / 1 / 4.9Mfg. BEG Model 173014 S.U. HP 1/4 RPM 1725HW Pump Starter: ☐ HOA ☐ Reset P/B ☐ S/S Push Button Interlocked with Boiler? ☐ Yes ☒ No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. \_\_\_\_\_ Model \_\_\_\_\_

Condensate Pumps/Hot Water Pumps: Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_

Boiler/Furnace Condition: \_\_\_\_\_

Describe \_\_\_\_\_

Occupant Discomfort (Evaluate): none - had previously fixed Adminoffice area - installed a T-stat, better  
control now

HEATING EQUIPMENT

3.1

COMPRESSOR(S)/CHILLER

Manufacturer NA  
 Model No. \_\_\_\_\_  
 Size \_\_\_\_\_  
 Refrigerant \_\_\_\_\_  
 Motor HP (if available) \_\_\_\_\_  
 Motor Voltage \_\_\_\_\_  
 Motor FLA \_\_\_\_\_  
 Measured Amps \_\_\_\_\_

COOLING TOWER

Gravity NA  
 Mech. Draft \_\_\_\_\_  
 Manufacturer \_\_\_\_\_  
 Model No. \_\_\_\_\_  
 Type of Fan \_\_\_\_\_  
 Fan RPM \_\_\_\_\_  
 Fan Motor HP \_\_\_\_\_  
 Fan Motor Voltage \_\_\_\_\_  
 Fan Motor FLA \_\_\_\_\_  
 Measured Amps \_\_\_\_\_

CONDENSER/CONDENSING UNIT

Water Cooled \_\_\_\_\_  
 Air Cooled \_\_\_\_\_  
 Evaporative \_\_\_\_\_  
 Manufacturer \_\_\_\_\_  
 Model No. \_\_\_\_\_  
 Size \_\_\_\_\_  
 Type of Fan \_\_\_\_\_  
 Fan Motor HP \_\_\_\_\_  
 Fan Motor Voltage \_\_\_\_\_  
 Fan Motor FLA \_\_\_\_\_  
 Measured Amps NA

CHILLED WATER PUMPS (If more than one, how many  
operative during normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
 Model No. \_\_\_\_\_  
 Capacity Gals. \_\_\_\_\_  
 Head, Ft. \_\_\_\_\_  
 Motor HP \_\_\_\_\_  
 Motor Voltage \_\_\_\_\_  
 Motor FLA \_\_\_\_\_  
 Measured Amps NA

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
 Model No. \_\_\_\_\_  
 Capacity, Gals. \_\_\_\_\_  
 Head, Ft. \_\_\_\_\_  
 Motor HP \_\_\_\_\_  
 Motor Voltage \_\_\_\_\_  
 Motor FLA \_\_\_\_\_  
 Measured Amps \_\_\_\_\_

PACKAGED ROOF TOP  
LEITHOX MOD: DMS4360 H4750  
Internal Blower no  $\phi$  FLA HP  
Return Air Fan 1 3 11 7.5  
Compressor 1 3 4.8 3  
 1 3 32.6  
 1 3 32.1  
Cond. Fan 2 3 3.9 2

REMARKS: Piping in Mech. Room 30 LF 1"  $\phi$  pipe needs more  
insulation for DX & condensers outside.

# 3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

LOCATION FHL  
BLDG. NO. 80

- a. Is System Supported from (check one): ☐ Central Plant ☒ One System per Building  
☐ Several Small Systems per Building

b. Domestic Hot Water Temperatures provided: 110 °F

c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:

3/4" 80 ft

d. Is Piping System Insulated and Condition: Yes

e. Is Hot Water Circulated?

1) Condition of circulator \_\_\_\_\_ 3) Is aquastat provided? \_\_\_\_\_

2) Circulator capacity \_\_\_\_\_ 4) Aquastat temperature setting \_\_\_\_\_

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- a. Location Janitor's Closet
- b. Areas Served Mens/Women's Toilets
- c. Manufacturer and Model AO Smith DRE 80 790
- d. Energy (Oil, Gas, Electric, Coal, Etc.) Electric
- e. Type Heaters & Quantities:
- 1) Storage NA
- 2) Instantaneous NA
- 3) Semi-Instantaneous NA
- f. Heater Size and Storage Capacity 80 gal
- g. Heating Capacity 480V 3φ 6KW x 3 = 18KW 21.6 EAmps
- h. Type Controls (Air, Steam, Electric) 3 Δ Phase 80 Gallons
- i. When Installed & Condition \_\_\_\_\_
- j. Heater Temperature Setting 135°F DHW
- k. Average Water Maintained Temperature 110
- l. Temperature Differential (j) - (k) 25
- m. Is Hot Water Supply Adequate: Yes
- n. Insulation Thickness 7/8" " Type \_\_\_\_\_
- o. Insulation Material \_\_\_\_\_

DOMESTIC HOT WATER SYSTEM/EQUIPMENT



# 3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

LOCATION Pit  
BLDG. NO. 80

## CONTROL SYSTEM:

CONTROLLERS: ☐ ELECTRIC ☐ PNEUMATIC  
☐ ELECTRONIC

OPERATION: ☐ MANUAL ☒ TIME CLOCK  
☐ CONTINUOUS ☐ EMCS  
☐ DEMAND

MFG Atwell MODEL \_\_\_\_\_ LOCATION \_\_\_\_\_

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

## FOR STORE:

Time clock control on heater - 7 day timer.

	ON	OFF
M	0500	2000
T		
W		
T		
F		
S		1900
S		2000

## ADMIN OFFICES

Honeywell Energy Mgmt Sensor/stat.

## LIGHTING

LOCATION

BLDG.

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/ DAY ON	DAYS/ YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT <sup>2</sup> )	WATTS PER SQ. FT.	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS	FINISH	WINDOW CODE	REMARKS (LIGHTS/SWITCH)
LOUNGE	S	F 40	2 / 100	1								8'-0"	C E I L L I N G	C E I L L I N G	NA	
CAL. BOY	S	I 75	1 / 75	3								-	M M D S S S	M M D S S S	NA	
STORAGE	P	F 40	2 / 100	17							25	14'-0"	C E I L L I N G	C E I L L I N G	NA	
LOBBY	R	F 40	4 / 160	3								8'-9"	C E I L L I N G	C E I L L I N G	NS	
MAILBOX	S	F 40	2 / 100	2							40	8'-0"	C E I L L I N G	C E I L L I N G	NA	
WASH LOBBY	R	I 60	1 / 60	1									M M M F F F	M M M F F F	NS	
MENS WC	S	F 40	2 / 100	2									M M M F F F	M M M F F F	NA	
RETAIL STORE	P	F 40	2 / 100	35							50	14'-0"	C E I L L I N G	C E I L L I N G	NA	800ma-HO
BARBER SHOP	R	F 40	4 / 200	8							60	8'-9"	C E I L L I N G	C E I L L I N G	NS	
ADMIN A	R	F 40	4 / 200	3								9'-9"	C E I L L I N G	C E I L L I N G	NA	
ADMIN B	R	F 40	4 / 200	6									C E I L L I N G	C E I L L I N G	NA	
TOTAL BUILDING LIGHTING ENERGY																

ADMIN C R R 40 4 / 200 4

## LIGHTING LEGEND:

## Fixture Types:

Recessed = R  
Suspended = S  
Ventilated = V  
Pole Mounted = PM  
Other--Describe

## Lamp Types:

Incandescent = I  
Fluorescent = F  
Sodium Vapor = SV  
Mercury Vapor = MV  
Metal Halide = MH  
Other--Describe

## Window Code:

If there are windows, indicate:  
Curtains = C  
Shades = S  
No Shading = NS

## Tasks Code:

1 = Corridors  
2 = Kitchens  
3 = Dining  
4 = Offices-general  
5 = Offices-bookkeeping (ledgers only)  
6 = Offices-drafting  
7 = Laundry  
8 = Toilets  
9 = Sleeping quarters  
10 = Supply rooms  
11 = Repair shops  
12 = Storage room  
13 = Retail store (PX, commissary)  
Other (describe on audit form)  
E = Exterior

[illegible]

### LIGHTING LEGEND:

**Fixture Types:**

Recessed = R  
Suspended = S  
Ventilated = V  
Pole Mounted = PM  
Other--Describe

**Lamp Types:**

Incandescent = I  
Fluorescent = F  
Sodium Vapor = SV  
Mercury Vapor = MV  
Metal Halide = MH  
Other--Describe

**Window Code:**

If there are windows, indicate:

Curtains = C  
 Shades = S  
 No Shading = NS

**Tasks Code:**

1 = Corridors  
2 = Kitchens  
3 = Dining  
4 = Offices-general  
5 = Offices-bookkeeping (ledgers only)  
6 = Offices-drafting  
7 = Laundry  
8 = Toilets  
9 = Sleeping quarters  
10 = Supply rooms  
11 = Repair shops  
12 = Storage room  
13 = Retail store (PX, commissary)  
Other (describe on audit form)  
E = Exterior

LOCATION FHC  
BLDG. NO. 80

4.2 LIGHTING (continued)

4.2.2 Exterior Lighting

ACTUAL NO. OF FIXTURES	TYPE OF FIXTURE	NO. OF FIXTURES IN USE	WATTS/ FIXTURE	TOTAL WATTS	CONTROL TYPE*	REMARKS
<u>4</u>	<u>R</u>	<u>4</u>	<u>75W(MV)</u>		<u>M</u>	<u>FRONT =</u> <u>NORTH SIDE</u>

\* M = Manual    T = Timer    P = Photocell    Enter schedule under Remarks.

CALCULATIONS

WATTS OF INTERIOR LIGHTING

Actual at time of survey NA

Total installed NA

WATTS OF EXTERIOR LIGHTING

Actual on at time of survey NA

Total installed NA

LIGHTING-EXTERIOR

LOCATION FH  
BLDG. NO. 80

4.3 POWER USAGE SURVEY

4.3.1 CRITICAL LOAD (Computer, Communications)

Describe: NA  
NA  
NA  
NA  
NA

4.3.2 RECEPTACLES IN USE 80 PERCENT

4.3.3 SMALL APPLIANCES IN USE (ENTER COUNT)

Water Cooler \_\_\_\_\_  
Vending Machine \_\_\_\_\_  
Space Heater \_\_\_\_\_  
Coffee Pot \_\_\_\_\_  
TV \_\_\_\_\_  
XEROX \_\_\_\_\_  
Other: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4.4 SPECIAL ELECTRIC EQUIPMENT

IDENTIFICATION NO.	LOCATION (ROOM)	DESCRIPTION (MANUFACTURER, MODEL NO.)	CONNECTED LOAD KW	REMARKS
	BLDG Overhang OUTSIDE	Pepsi Machine		
	ADMIN OFFICES	TV		
		PC's 5 ea		
		Printers 5 ea		
		Xerox - 1 ea		
		Water Cooler		
	CASHIERS OFFICE	3 PC's		
		2 Printers		
		Asc Office Supplies		
empty 28°F	Retail store	Tyler FG5 - 1275 Reach - 220V 7.3A R502 in Cold Box (w/3 doors) Lose only 120V 10.0A lights 120V 4.8A		
		• Tyler XDAFG12 - 4208 3 Fans 0.8A ea 115V 4.0A R502		Frozen Foods 12°F
		Anti Sweat Htr: 1236W		
		Lights 115V 6.3A 208V Defrost Htr 4000W		
☆		• Hussmann ISO 671 FGI 115V 10.1 AMP R-12 1502		ICE 34°F
☆		• True GDM-46 1/2 HP 115V 1ϕ 9.2 FLA R12 2102		SODAS 37°F SLIDING DOOR
☆		• Beverage Air MT65 115V 15.2 FLA		SODAS 40°F
☆		• ——— 11 ———		37°F

☆ Self-contained units - reject heat into store

# 2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FH SURVEYED BY RJB/BJH DATE 10/6/92

BUILDING NUMBER THEATER (P-81) FUNCTION/USE THEATER

INFORMATION SOURCE (DWG. NO./PERSON) VISUAL / AS-BUILT DWGS

## GENERAL BUILDING DATA

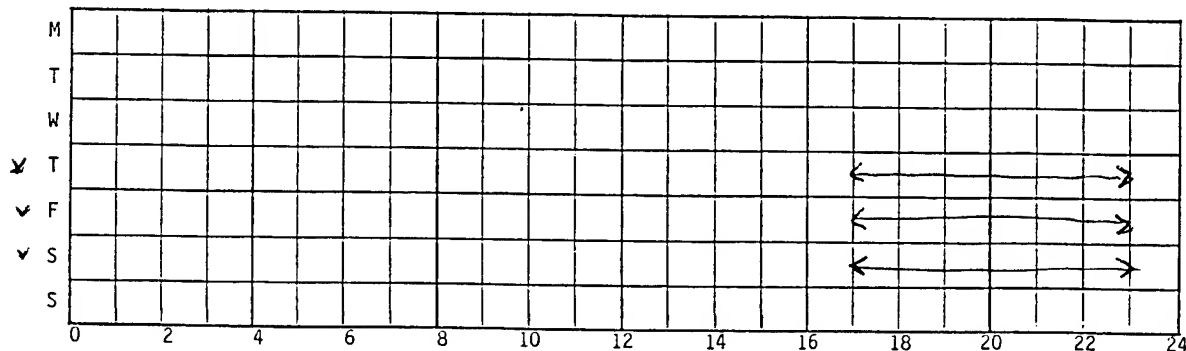
BUILDING AGE: \_\_\_\_\_ YEARS

DUPLICATE BUILDING NOS: \_\_\_\_\_  
 \_\_\_\_\_ TOTAL: \_\_\_\_\_

SIMILAR BUILDING NOS: \_\_\_\_\_  
 \_\_\_\_\_ TOTAL: \_\_\_\_\_

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) ☐ NO. OF OCCUPANTS 350

Indicate (number and) duration of occupants each day



MISCELLANEOUS EQUIPMENT: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

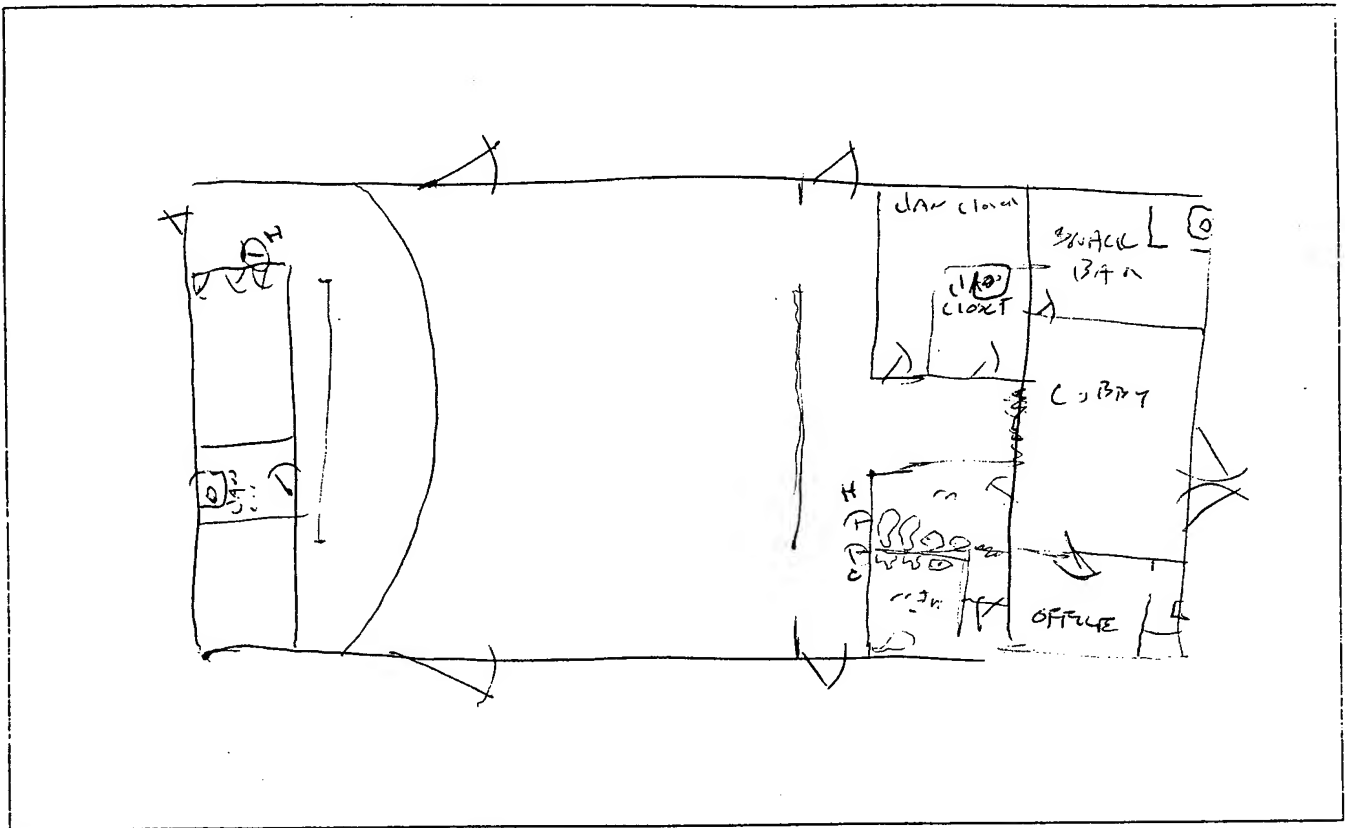
ADDITIONAL COMMENTS, CRITICAL LOADS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

CRAWL SPACE: VENTILATED ☐ EXHAUSTED ☐

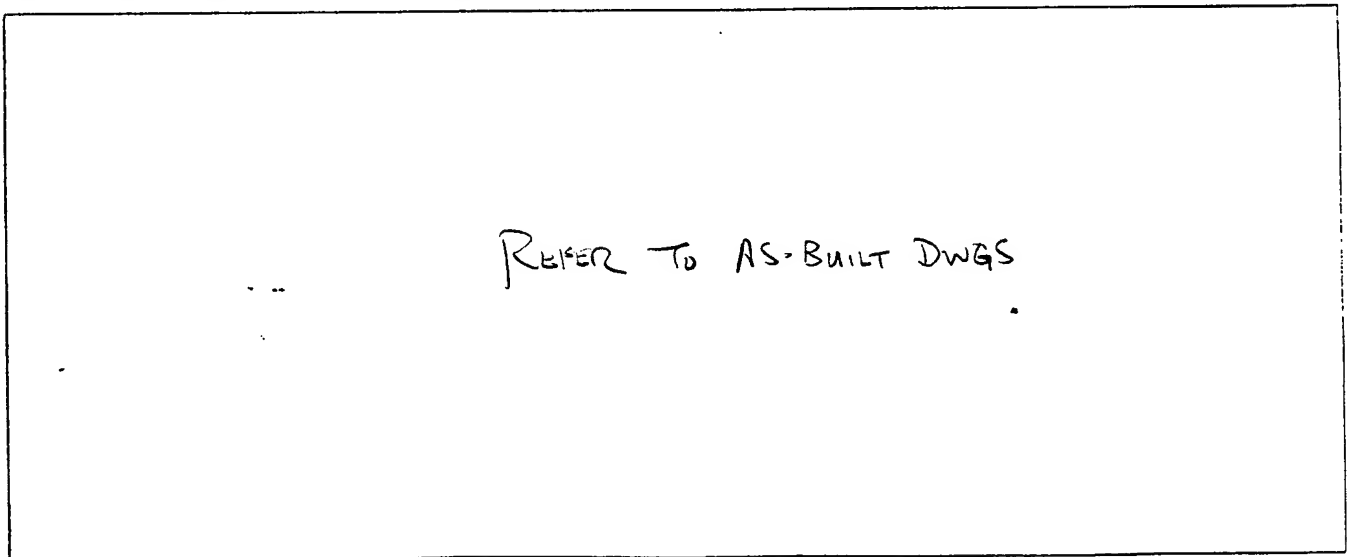
ATTIC: VENTILATED ☐ EXHAUSTED ☐

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



BUILDING FLOOR PLAN AND  
ELEVATION SKETCHES



	TOTAL AREA	U-VALUE
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
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14		
15		
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98		
99		
100		

LEGEND:

1 - ORDINARY  
2 - 1/4" PLATE  
3 - HEAT ABSORBING  
4 - TINTED

W - WOOD  
M - METAL  
T - METAL/THERMAL BREAK

A - SOLAR FILM  
B - VEN BLIND  
C - STORM WINDOW  
D - DRAPES

E - AWNING  
F - SOLAR SCREEN  
G - OVERHANG  
OTHER - SPECIFY

1 - DOUBLE HUNG	4 - CASEMENT
2 - SINGLE HUNG	5 - LOUVERED
3 - SLIDING	6 - FIXED GLASS

2.4 BUILDING ENVELOPE

LOCATION FH2  
BLDG. NO. P-81

CONSTRUCTION

WALL  COLOR: D ☐ M ☐ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
CMU	8"	
CMU	6"	
STUCCO	3/4"	
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

BUILDING SKIRTING MATERIAL

ROOF (INCL. CLG.)

TYPE: F ☐ P ☐  
COLOR: D ☐ M ☐ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
BUILT UP ROOFING		
2" rigid insul.	2"	
2 1/2" CONC.		
SPECIAL DECK.		
SPACE SUSP. CEILING	1'-2" 1/2"	
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

3.1 HEATING EQUIPMENT

LOCATION FAL

BLDG. NO. P-81

Heat Source:

☐ Furnace ☐ Steam Boiler ☒ Hot Water Boiler ☐ Heat Pump ☐ Supplied Steam or Hot Water (External Boiler Plant) ☐ Other \_\_\_\_\_

Capacity: 300 MBtu/Hr or \_\_\_\_\_ Boiler HP or \_\_\_\_\_ Lbs/Hr Steam or \_\_\_\_\_ GPM Hot Water

Manufacturer: HYDROTERM Model No.: \_\_\_\_\_

Boiler/Furnace Control: ☐ Manual ☐ Time Clock ☒ Demand ☐ EMCS ☐ O<sub>2</sub> Trim

Operating Temperature: \_\_\_\_\_ °F Operating Pressure: \_\_\_\_\_ PSI

Fuel: ☐ Nat. Gas Only ☐ Nat. Gas/ \_\_\_\_\_ Draft: ☒ Forced ☐ Induced  
☒ Other (Specify) PROPANE

Burner: Mfg. ECONOMITE Model No. RE32P Metering Equipment: ☐ Yes ☒ No

Operating Schedule: Weekdays: R/F/S From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

Weekdays & Holidays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

Operating Season: From \_\_\_\_\_ Mon/Day, to \_\_\_\_\_ Mon/Day

Flue Gas Temperature: \_\_\_\_\_ °F Receiver Tank Conditions: \_\_\_\_\_ PSIG \_\_\_\_\_ °F

If supplied Steam or Hot Water: Steam Pressure \_\_\_\_\_ PSI Hot Water Supply Temp. \_\_\_\_\_ °F Hot Water Return Temp. \_\_\_\_\_ °F

Insulation: (1) Boiler (2) Other (Specify) \_\_\_\_\_  
Poor ☐ Area INTERNAL FT<sup>2</sup> Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>  
None ☐ Temp. \_\_\_\_\_ °F None ☐ Temp. \_\_\_\_\_ °F

Pump: No. of Pumps 3 V/PH/FLA \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Mfg. Bell & Gossett Model 60-1 1/4 AA HP 1/3 RPM 1750  
HW Pump Starter: ☐ HOA ☐ Reset P/B ☐ S/S Push Button Interlocked with Boiler? ☐ Yes ☐ No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. \_\_\_\_\_ Model \_\_\_\_\_

Condensate Pumps/Hot Water Pumps: Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_

Boiler/Furnace Condition: \_\_\_\_\_

Describe \_\_\_\_\_

Occupant Discomfort (Evaluate): \_\_\_\_\_

HEATING EQUIPMENT

# 3.2 COOLING EQUIPMENT

LOCATION FHL  
BLDG. NO. P-81

## COMPRESSOR(S)/CHILLER

Manufacturer TRANE "  
Model No. RAUA 1253-A "  
Size 2 CKT / 3 FAN "  
Refrigerant R-22 "  
Motor HP (if available) 1/2 "  
Motor Voltage 208 "  
Motor FLA 4.1 "  
Measured Amps \_\_\_\_\_

## COOLING TOWER

Gravity \_\_\_\_\_  
Mech. Draft \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Type of Fan \_\_\_\_\_  
Fan RPM \_\_\_\_\_  
Fan Motor HP \_\_\_\_\_  
Fan Motor Voltage \_\_\_\_\_  
Fan Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

## CONDENSER/CONDENSING UNIT

Water Cooled \_\_\_\_\_  
Air Cooled X " X  
Evaporative \_\_\_\_\_  
Manufacturer TRANE " TRANE  
Model No. RAUA 1253-A " RAUB-426-E  
Size 2 CKT / 3 FAN " 1 CKT / 1 FA  
Type of Fan CONDENSER " "  
Fan Motor HP 1/2 " 1/2  
Fan Motor Voltage 208 " 208  
Fan Motor FLA 4.1 " 3.4  
Measured Amps \_\_\_\_\_

## CHILLED WATER PUMPS (If more than one, how many operative during normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

## CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity, Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

REMARKS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

COOLING EQUIPMENT

FANS

Type	<u>DRAIN THROUGH</u>	<u>CENTRIFUGAL</u>	<u>PRV</u>	
Unit/Zone	<u># MAIN</u>	<u># ADA-2</u>	<u># ROOF</u>	
Manufacturer	<u>TRANZ</u>	<u>"</u>	<u>ASMAU</u>	
Model No.	<u>CLCH-17</u>	<u>CLCH-3</u>		
Type	<u>CLIMATE CHNGR</u>			
RPM of Fan				
Motor HP	<u>5</u>	<u>3/4</u>		
Motor Volts	<u>208</u>	<u>208</u>		
Motor FLA	<u>16</u>	<u>2.6</u>		
Measured Amps				
CFM (from Plans)				
Notes				

COILS

Indicate capacities where found:

COOLING		HUMIDIFICATION	
DX <u>X</u>		ELEC	
H <sub>2</sub> O		STEAM	
OTHER		H <sub>2</sub> O	
HEATING		OTHER	
GAS		AUX/MISC OTHER	
H <sub>2</sub> O <u>X</u>			
ELEC			
OTHER			

FILTERS

Type			
Condition			
Manometer Reading 1/			

1/ Record only if manometer is installed on the unit.

HAS ECONOMIZER UNIT

### 3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

LOCATION FAL  
BLDG. NO. P-81

- a. Is System Supported from (check one): ☐ Central Plant ☐ One System per Building  
☐ Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: \_\_\_\_\_ °F \_\_\_\_\_
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- d. Is Piping System Insulated and Condition: \_\_\_\_\_
- e. Is Hot Water Circulated? \_\_\_\_\_  
1) Condition of circulator \_\_\_\_\_ 3) Is aquastat provided? \_\_\_\_\_  
2) Circulator capacity \_\_\_\_\_ 4) Aquastat temperature setting \_\_\_\_\_

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- | a. Location                                | MECH ROOM       | CLASH CLOSET    |
|--|-----------------|-----------------|
| b. Areas Served                            | BACK            | FRONT           |
| c. Manufacturer and Model                  | NATIONAL NSL-20 | NATIONAL NRG 40 |
| d. Energy (Oil, Gas, Electric, Coal, Etc.) | ELEC            | ELEC            |
| e. Type Heaters & Quantities:              |                 |                 |
| 1) Storage                                 | 20 GAL          | 40 GAL          |
| 2) Instantaneous                           |                 |                 |
| 3) Semi-Instantaneous                      |                 |                 |
| f. Heater Size and Storage Capacity        |                 |                 |
| g. Heating Capacity                        | 2 KW            | 4.5 KW          |
| h. Type Controls (Air, Steam, Electric)    | NHE             | "               |
| i. When Installed & Condition              | WORKING         | "               |
| j. Heater Temperature Setting              |                 |                 |
| k. Average Water Maintained Temperature    |                 |                 |
| l. Temperature Differential (j) - (k)      |                 |                 |
| m. Is Hot Water Supply Adequate:           | YES             | "               |
| n. Insulation Thickness                    | NHE             | Type            |
| o. Insulation Material                     |                 |                 |

DOMESTIC HOT WATER SYSTEM/EQUIPMENT

LOCATION FHL  
BLDG. NO. P-81

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

CONTROL SYSTEM:

CONTROLLERS:



ELECTRIC



PNEUMATIC



ELECTRONIC

OPERATION:



MANUAL



CONTINUOUS



DEMAND



TIME CLOCK



EMCS

MFG

MODEL

LOCATION

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

TIME CLOCK SET FOR 5PM - 11PM THURSDAY/FRIDAY  
SATURDAY ONLY - AHC

CONTROL/MISCELLANEOUS PROCESS/SKETCHES

•

BLDG. NO. 7-81

[illegible]

SPECIAL EQUIPMENT



# 4.2.1 Interior Lighting

LOCATION 5th BLDG. P-81

LIGHTING

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT <sup>2</sup> )	WATTS PER SQ. FT.	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS	FINISH	WINDOW CODE	REMARKS (LIGHTS/SWITCH)
RECE	S	F	2/34	4												
HAL	S	F	2/34	2												
TRAF	R	F	1/100	8												ON DIMMER
TRAF	R	F	1/300	14												ON DIMMER
SC	A	F	1/75	1	75											
SC	S	F	1/75	1	75											
SC	S	F	2/34	2												
LOD	R	F	1/34	6												
LOD	S	F	1/34	3												
LOD	S	F	1/34	4												
LOD	S	F	2/34	4												
TOTAL BUILDING LIGHTING ENERGY																
OFFICE	S	F	2/34	2												
OFFICE	S	F	1/34	2												
OFFICE	S	F	1/75	2												

LIGHTING LEGEND:

Window Code:

If there are windows, indicate:  
Curtains = C  
Shades = S  
No Shading = NS

Lamp Types:

Incandescent = I  
Fluorescent = F  
Sodium Vapor = SV  
Mercury Vapor = MV  
Metal Halide = MH  
Other--Describe

Fixture Types:

Recessed = R  
Suspended = S  
Ventilated = V  
Pole Mounted = PM  
Other--Describe

Tasks Code:

1 = Corridors  
2 = Kitchens  
3 = Dining  
4 = Offices-general  
5 = Offices-bookkeeping (ledgers only)  
6 = Offices-drafting  
7 = Laundry  
8 = Toilets  
9 = Sleeping quarters  
10 = Supply rooms  
11 = Repair shops  
12 = Storage room  
13 = Retail store (PX, commissary)  
Other (describe on audit form)  
E = Exterior

LOCATION FAL  
BLDG. NO. P81

4.2 LIGHTING (continued)

4.2.2 Exterior Lighting

ACTUAL NO. OF FIXTURES	TYPE OF FIXTURE	NO. OF FIXTURES IN USE	WATTS/ FIXTURE	TOTAL WATTS	CONTROL TYPE*	REMARKS
<u>22</u>	<u>WCAP</u>	<u>      </u>	<u>300</u>	<u>      </u>	<u>M</u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>

\* M = Manual    T = Timer    P = Photocell    Enter schedule under Remarks.

CALCULATIONS

WATTS OF INTERIOR LIGHTING

Actual at time of survey       

Total installed       

WATTS OF EXTERIOR LIGHTING

Actual on at time of survey       

Total installed       

LIGHTING-EXTERIOR

FAL

P-81

#### 4.4 . SPECIAL ELECTRIC EQUIPMENT

[illegible]

SPECIAL ELECTRIC EQUIPMENT

## 2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FtH SURVEYED BY BUT/RJB DATE 05 92  
 BUILDING NUMBER 101 FUNCTION/USE Hacienda  
 INFORMATION SOURCE (DWG. NO./PERSON) DWG / SURVEY

### GENERAL BUILDING DATA

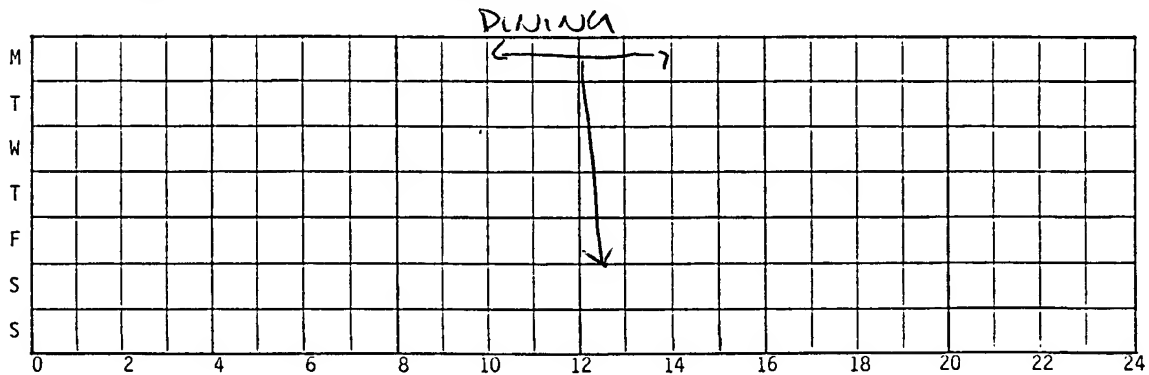
BUILDING AGE: OLD YEARS

DUPLICATE BUILDING NOS: \_\_\_\_\_  
 TOTAL: \_\_\_\_\_

SIMILAR BUILDING NOS: \_\_\_\_\_  
 TOTAL: \_\_\_\_\_

BUILDING OCCUPANCY: LIVING CONTINUOUS (24 HRS/DAY) ☒ NO. OF OCCUPANTS 40

Indicate (number and) duration of occupants each day



MISCELLANEOUS EQUIPMENT: KITCHEN & BAR AREA

ADDITIONAL COMMENTS, CRITICAL LOADS: \_\_\_\_\_

CRAWL SPACE: VENTILATED ☐ EXHAUSTED ☐

ATTIC: VENTILATED ☒ EXHAUSTED ☐

LOCATION

BLDG. NO.

File  
101

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)

USED MISC DRAWINGS PROVIDED  
FOR VERIFICATION

SOUTH ELEVATION (Show floor to ceiling elevations)

//

BUILDING FLOOR PLAN AND  
ELEVATION SKETCHES

U-VALUE	TOTAL AREA

**LEGEND:**

\*\*\*VISIBILITY:

### WINDOW TYPES:

E - AWNING  
F - SOLAR SCREEN  
G - OVERHANG  
OTHER - SPECIFY

WINDOW TYPES:		
1 -	DOUBLE HUNG	4 - CASEMENT
2 -	SINGLE HUNG	5 - LOUVERED
3 -	SLIDING	6 - FIXED GLASS

2.4 BUILDING ENVELOPE

LOCATION Fitz  
BLDG. NO. 121

CONSTRUCTION

WALL  COLOR: D ☐ M ☐ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
Heavy Airspace	13"	3.6
INSIDE FILM		
TOTAL		3.6

U-FACTOR  AREA  0.3

FLOOR  NA

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

BUILDING SKIRTING MATERIAL

ROOF (INCL. CLG.) TYPE: F ☐ P ☐  
COLOR: D ☐ M ☐ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
Wood Slat		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

DOOR  NA

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

## 3.1 HEATING EQUIPMENT

LOCATION FH  
BLDG. NO. 101

Heat Source:

☐ Furnace ☐ Steam Boiler ☒ Hot Water Boiler ☐ Heat Pump ☐ Supplied Steam or Hot Water (External Boiler Plant) ☒ Other 30EA 3kW ELECTRIC RESIS. HEATERS (PUMING)Capacity: 251 MBtu/Hr <sup>IN</sup> or \_\_\_\_\_ Boiler HP or \_\_\_\_\_ Lbs/Hr Steam or 203.6 GPH Hot WaterManufacturer: AO SMITH Model No.: ST-25Boiler/Furnace Control: ☐ Manual ☐ Time Clock ☒ Demand ☐ EMCS ☐ O<sub>2</sub> Trim

Operating Temperature: \_\_\_\_\_ °F Operating Pressure: \_\_\_\_\_ PSI

Fuel: ☐ Nat. Gas Only ☐ Nat. Gas/ \_\_\_\_\_Draft: ☐ Forced☒ Other (Specify) PROPANE☐ InducedBurner: Mfg. \_\_\_\_\_ Model No. \_\_\_\_\_ Metering Equipment: ☐ Yes ☒ No

Operating Schedule: Weekdays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

DEMAND

Weekdays &amp; Holidays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

Operating Season: From \_\_\_\_\_ Mon/Day, to \_\_\_\_\_ Mon/Day

Flue Gas Temperature: \_\_\_\_\_ °F Receiver Tank Conditions: \_\_\_\_\_ PSIG \_\_\_\_\_ °F

If supplied Steam or Hot Water: Steam Pressure \_\_\_\_\_ PSI Hot Water Supply Temp. 180 °F Hot Water Return Temp. \_\_\_\_\_ °F

Insulation: (1) Boiler (2) Other (Specify) \_\_\_\_\_

Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup> Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>None ☒ Temp. \_\_\_\_\_ °F None ☐ Temp. \_\_\_\_\_ °FPump: No. of Pumps 1 HW PUMP + 2 BLDG CIRC. PUMPS V/PH/FLA NA / NA / NAMfg. NA Model NA HP NA RPM NAHW Pump Starter: ☐ HOA ☐ Reset P/B ☐ S/S Push Button Interlocked with Boiler? ☐ Yes ☐ No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. \_\_\_\_\_ Model \_\_\_\_\_

Condensate Pumps/Hot Water Pumps: Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_

Boiler/Furnace Condition: \_\_\_\_\_

Describe \_\_\_\_\_

Occupant Discomfort (Evaluate): \_\_\_\_\_

HEATING EQUIPMENT



3.2 COOLING EQUIPMENTLOCATION FHL  
BLDG. NO. 101COMPRESSOR(S)/CHILLER

Manufacturer TRANE CHILLER  
Model No. CGAA-2006-MB  
Size \_\_\_\_\_  
Refrigerant R-22  
Motor HP (if available) \_\_\_\_\_  
Motor Voltage 200V/3φ  
Motor FLA 92  
Measured Amps \_\_\_\_\_

CONDENSER/CONDENSING UNIT

Water Cooled \_\_\_\_\_  
Air Cooled ✓  
Evaporative \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Size \_\_\_\_\_  
Type of Fan \_\_\_\_\_  
Fan Motor HP 2 e 11HP  
Fan Motor Voltage 200V/3φ  
Fan Motor FLA 6.0  
Measured Amps \_\_\_\_\_

COOLING TOWER

Gravity \_\_\_\_\_  
Mech. Draft \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Type of Fan \_\_\_\_\_  
Fan RPM \_\_\_\_\_  
Fan Motor HP \_\_\_\_\_  
Fan Motor Voltage \_\_\_\_\_  
Fan Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

CHILLED WATER PUMPS (If more than one, how many  
operative during normal operation: \_\_\_\_\_)

Manufacturer 3 SMALL CIRC. PUMPS  
Model No. \_\_\_\_\_  
Capacity Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity, Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

REMARKS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_COOLING EQUIPMENT

## 3.3 AIR HANDLING EQUIPMENT

LOCATION FH  
BLDG. NO. 101

## FANS

Type	<u>CEIT</u>	<u>"</u>		
Unit/Zone	# <u>1</u>	# <u>2</u>	#	#
Manufacturer	<u>TRANE</u>	<u>"</u>		
Model No.	<u>CLCH</u>	<u>"</u>		
Type	<u>6</u>	<u>"</u>		
RPM of Fan				
Motor HP	<u>2</u>	<u>"</u>		
Motor Volts	<u>230</u>	<u>"</u>		
Motor FLA	<u>11.7</u>	<u>"</u>		
Measured Amps				
CFM (from Plans)				
Notes				

## COILS

Indicate capacities where found:

## COOLING

 DX \_\_\_\_\_  
 H<sub>2</sub>O ✓ \_\_\_\_\_  
 OTHER \_\_\_\_\_

## HUMIDIFICATION

 ELEC NA \_\_\_\_\_  
 STEAM NA \_\_\_\_\_  
 H<sub>2</sub>O NA \_\_\_\_\_  
 OTHER NA \_\_\_\_\_

## HEATING

 GAS \_\_\_\_\_  
 H<sub>2</sub>O ✓ \_\_\_\_\_  
 ELEC \_\_\_\_\_  
 OTHER \_\_\_\_\_

## AUX/MISC OTHER

NA \_\_\_\_\_  
NA \_\_\_\_\_  
NA \_\_\_\_\_

## FILTERS

 Type NA \_\_\_\_\_ NA \_\_\_\_\_  
 Condition \_\_\_\_\_ NA \_\_\_\_\_  
 Manometer Reading 1/ NA \_\_\_\_\_ NA \_\_\_\_\_

1/ Record only if manometer is installed on the unit.

AIR HANDLING EQUIPMENT

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

LOCATION Fitz  
BLDG. NO. 101

- a. Is System Supported from (check one): ☐ Central Plant ☐ One System per Building  
☒ Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: 110 °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:  
1" - 75 ft
- d. Is Piping System Insulated and Condition: NO
- e. Is Hot Water Circulated? NO
- 1) Condition of circulator NA 3) Is aquastat provided? NA
- 2) Circulator capacity NA 4) Aquastat temperature setting NA

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- a. Location CLAN
- b. Areas Served ARCADIE
- c. Manufacturer and Model AO Smith BT6240831
- d. Energy (Oil, Gas, Electric, Coal, Etc.) PROPANE
- e. Type Heaters & Quantities:
- 1) Storage 100 GAL
- 2) Instantaneous
- 3) Semi-Instantaneous
- f. Heater Size and Storage Capacity 251 MBH
- g. Heating Capacity 100 GAL / 203.6 GPH REWORK
- h. Type Controls (Air, Steam, Electric) ELECTRIC
- i. When Installed & Condition OLD
- j. Heater Temperature Setting —
- k. Average Water Maintained Temperature —
- l. Temperature Differential (j) - (k) —
- m. Is Hot Water Supply Adequate: YES
- n. Insulation Thickness NONE Type —
- o. Insulation Material NONE

35 LBS OUTLET 3/4" φ NEEDS INSULATION

### 3.6 SPECIAL EQUIPMENT

LOCATION FH2  
BLDG. NO. 101

[illegible]

SPECIAL EQUIPMENT

# 4.2.1 Interior Lighting

Room 3 1/30 8480 = 1440  
Room 4 1/60 11 660

LIGHTING

LOCATION

FAL

BLDG.

101

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT <sup>2</sup> )	WATTS PER SQ. FT.	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS	FINISH	WINDOW CODE	REMARKS
PH-1-A	S	I/60	2/120	3	960											
PH-1-B	surf	I/60	1/60	7	420											
PH-1-C	S	I/60	2/120	5	600											
PH-1-D	surf	I/60	1/60	7	420											
PH-2	S	I/60	2/120	2	240											
PH-3	S	I/60	1/60	9	540											
PH-3	S	I/60	1/60	2	120											
PH-3	S	I/60	1/60	20	1800											
PH-3	S	I/60	1/60	17	155											
PH-3	S	I/60	2/120	1	70											
PH-3	S	I/60	6/40	4	1440											
TOTAL BUILDING LIGHTING ENERGY																
S 5/60 12/800 1 320																
S 1/60 1/60 1/60																

## LIGHTING LEGEND:

### Window Code:

If there are windows, indicate:  
Curtains = C  
Shades = S  
No Shading = NS

### Lamp Types:

Incandescent = I  
Fluorescent = F  
Sodium Vapor = SV  
Mercury Vapor = MV  
Metal Halide = MH  
Other--Describe

### Fixture Types:

Recessed = R  
Suspended = S  
Ventilated = V  
Pole Mounted = PM  
Other--Describe

### Tasks Code:

1 = Corridors  
2 = Kitchens  
3 = Dining  
4 = Offices-general  
5 = Offices-bookkeeping (ledgers only)  
6 = Offices-drafting  
7 = Laundry  
8 = Toilets  
9 = Sleeping quarters  
10 = Supply rooms  
11 = Repair shops  
12 = Storage room  
13 = Retail store (PX, commissary)  
Other (describe on audit form)  
E = Exterior

LOCATION FHC  
BLDG. NO. 101

#### 4.3 POWER USAGE SURVEY

##### 4.3.1 CRITICAL LOAD (Computer, Communications)

Describe: \_\_\_\_\_

NA

NA

4.3.2 RECEPTACLES IN USE 75 PERCENT

##### 4.3.3 SMALL APPLIANCES IN USE (ENTER COUNT)

Water Cooler \_\_\_\_\_

Vending Machine \_\_\_\_\_

Space Heater X 12kw per Room

Coffee Pot X

TV \_\_\_\_\_

XEROX \_\_\_\_\_

Other:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

POWER USAGE SURVEY

4.3

# 2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHL SURVEYED BY RJB/BIH DATE Oct 92  
 BUILDING NUMBER 116 FUNCTION/USE SERVICE STATION  
 INFORMATION SOURCE (DWG. NO./PERSON) SURVEY

## GENERAL BUILDING DATA

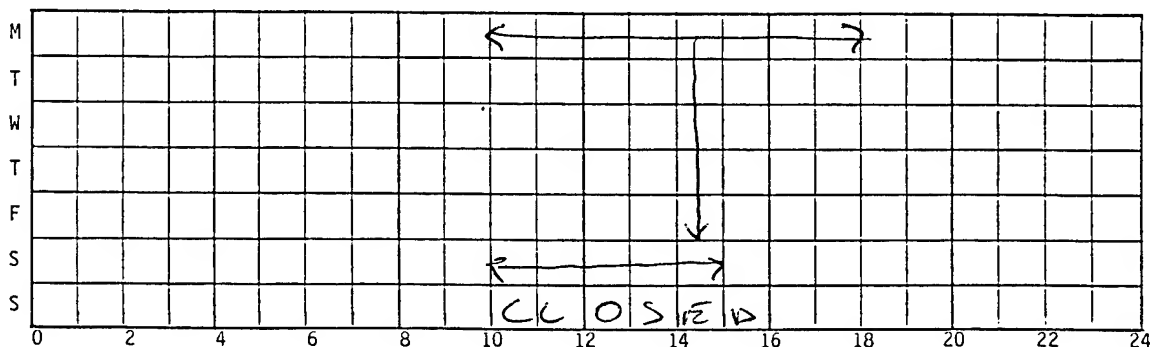
BUILDING AGE: 12 YEARS

DUPLICATE BUILDING NOS: \_\_\_\_\_  
 TOTAL: \_\_\_\_\_

SIMILAR BUILDING NOS: \_\_\_\_\_  
 TOTAL: \_\_\_\_\_

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) ☐ NO. OF OCCUPANTS 2

Indicate (number and) duration of occupants each day



MISCELLANEOUS EQUIPMENT: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

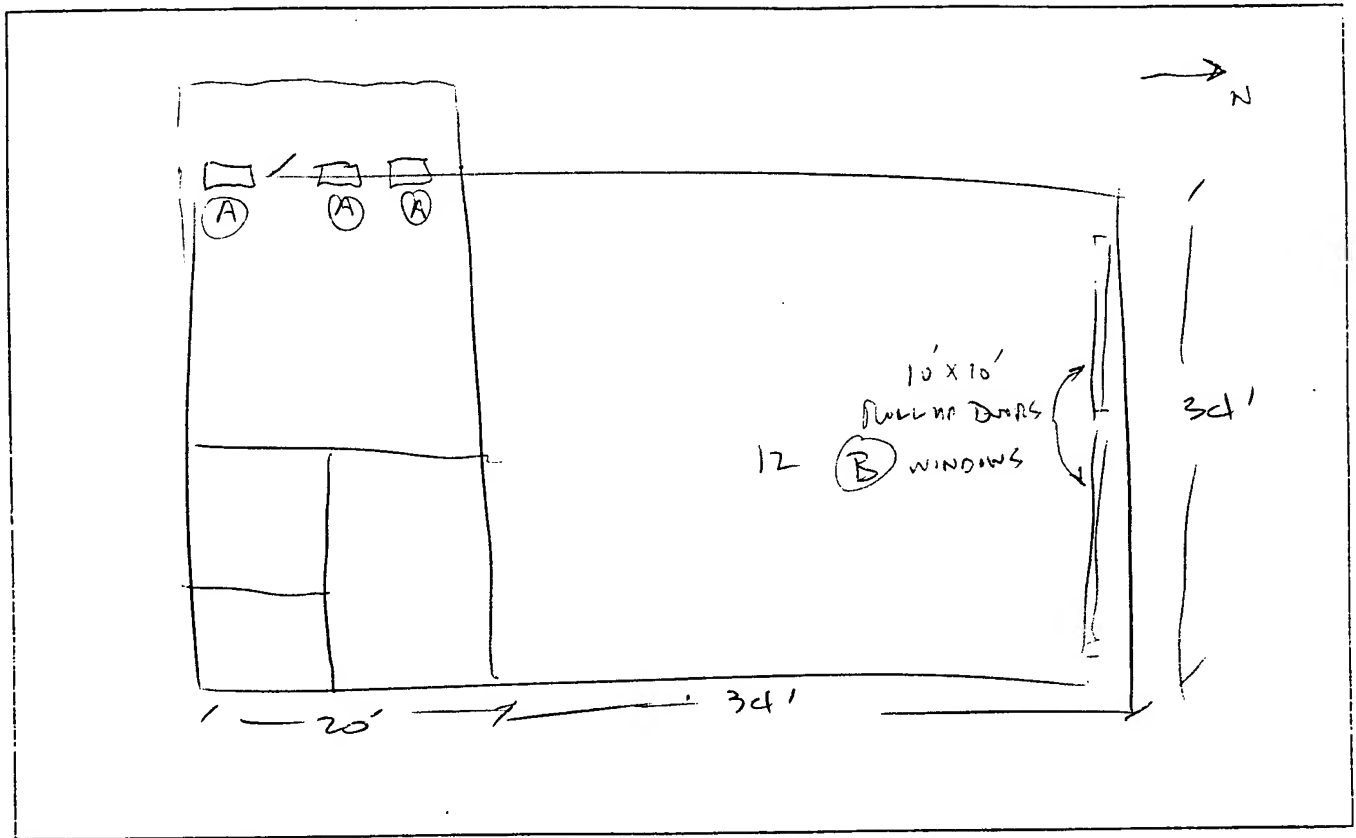
ADDITIONAL COMMENTS, CRITICAL LOADS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

CRAWL SPACE: VENTILATED ☒ EXHAUSTED ☐

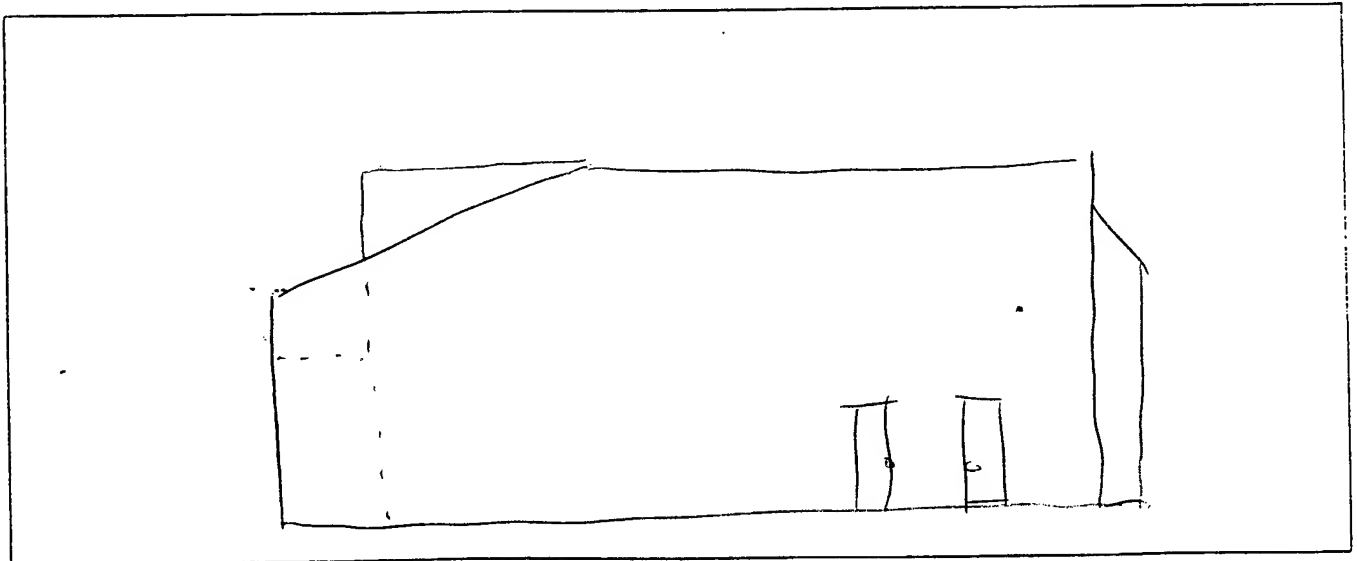
ATTIC: VENTILATED ☐ EXHAUSTED ☐

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



BUILDING FLOOR PLAN AND  
ELEVATION SKETCHES



[illegible]

TOTAL AREA

U-VALUE

**LEGEND:**

\*\*\*SHADING:

\*\*\*VISIBILITY:

WINDOW TYPES:

A - SOLAR FILM  
B - VEN BLIND  
C - STORM WINDOW  
D - DRAPES

E - AWNING  
F - SOLAR SCREEN  
G - OVERHANG  
OTHER - SPECIFY

1 - DOUBLE HUNG	4 - CASEMENT
2 - SINGLE HUNG	5 - LOUVERED
3 - SLIDING	6 - FIXED GLASS

**\*GLAZING:**

1 - ORDINARY  
2 - 1/4" PLATE  
3 - HEAT ABSORBING  
4 - TINTED

**\*\*\*FRAME:**

W - WOOD  
M - METAL  
T - METAL/THERMAL BREAK

**\*\*\*SHADING:**

E - AWNING  
F - SOLAR SCREEN  
G - OVERHANG  
OTHER - SPECIFY

WINDOW TYPES:

1 - DOUBLE HUNG	4 - CASEMENT
2 - SINGLE HUNG	5 - LOUVERED
3 - SLIDING	6 - FIXED GLASS

2.4 BUILDING ENVELOPE

LOCATION

BLDG. NO.

FtH  
116

CONSTRUCTION

WALL

COLOR: D ☐ M ☐ L ☒

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
<i>Ctgru</i>		
INSIDE FILM		
TOTAL		

U-FACTOR

AREA

ROOF (INCL. CLG.)

TYPE: F ☐ P ☐

COLOR: D ☐ M ☒ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
<i>B.U. Roofing</i>		
<i>CONCRETE</i>		
INSIDE FILM		
TOTAL		

U-FACTOR

AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR

AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR

AREA

BUILDING SKIRTING MATERIAL

# 3.1 HEATING EQUIPMENT

LOCATION KHL  
BLDG. NO. 116

Heat Source:

☐ Furnace ☐ Steam Boiler ☐ Hot Water Boiler ☒ Heat Pump ☐ Supplied Steam or Hot Water (External Boiler Plant) ☐ Other \_\_\_\_\_

Capacity: 32,000 Btu/Hr or \_\_\_\_\_ Boiler HP or \_\_\_\_\_ Lbs/Hr Steam or \_\_\_\_\_ GPM Hot Water

Manufacturer: CARRIER Model No.: T060233

Boiler/Furnace Control: ☐ Manual ☐ Time Clock ☐ Demand ☐ EMCS ☐ O<sub>2</sub> Trim

Operating Temperature: \_\_\_\_\_ °F Operating Pressure: \_\_\_\_\_ PSI

Fuel: ☐ Nat. Gas Only ☐ Nat. Gas/ \_\_\_\_\_  
☒ Other (Specify) ELECTRIC

Draft: ☐ Forced  
☐ Induced

Burner: Mfg. \_\_\_\_\_ Model No. \_\_\_\_\_ Metering Equipment: ☐ Yes ☐ No

Operating Schedule: Weekdays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

Weekdays & Holidays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

Operating Season: From \_\_\_\_\_ Mon/Day, to \_\_\_\_\_ Mon/Day

Flue Gas Temperature: \_\_\_\_\_ °F Receiver Tank Conditions: \_\_\_\_\_ PSIG \_\_\_\_\_ °F

If supplied Steam or Hot Water: Steam Pressure \_\_\_\_\_ PSI Hot Water Supply Temp. \_\_\_\_\_ °F Hot Water Return Temp. \_\_\_\_\_ °F

Insulation: (1) Boiler

Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>  
None ☐ Temp. \_\_\_\_\_ °F

(2) Other (Specify) \_\_\_\_\_

Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>  
None ☐ Temp. \_\_\_\_\_ °F

Pump: No. of Pumps \_\_\_\_\_ V/PH/FLA \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_ RPM \_\_\_\_\_

HW Pump Starter: ☐ HOA ☐ Reset P/B ☐ S/S Push Button Interlocked with Boiler? ☐ Yes ☐ No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. \_\_\_\_\_ Model \_\_\_\_\_

Condensate Pumps/Hot Water Pumps: Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_

Boiler/Furnace Condition: \_\_\_\_\_

Describe \_\_\_\_\_

Occupant Discomfort (Evaluate): \_\_\_\_\_

HEATING EQUIPMENT

3.2 COOLING EQUIPMENT

COMPRESSOR(S)/CHILLER

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Size \_\_\_\_\_  
Refrigerant \_\_\_\_\_  
Motor HP (if available) \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

COOLING TOWER

Gravity \_\_\_\_\_  
Mech. Draft \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Type of Fan \_\_\_\_\_  
Fan RPM \_\_\_\_\_  
Fan Motor HP \_\_\_\_\_  
Fan Motor Voltage \_\_\_\_\_  
Fan Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

CONDENSER/CONDENSING UNIT

Water Cooled \_\_\_\_\_  
Air Cooled \_\_\_\_\_  
Evaporative \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Size \_\_\_\_\_  
Type of Fan \_\_\_\_\_  
Fan Motor HP \_\_\_\_\_  
Fan Motor Voltage \_\_\_\_\_  
Fan Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

CHILLED WATER PUMPS (If more than one, how many  
operative during normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity, Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

REMARKS: Heat Pump  
CARRIER MOD TO6033  
FILTERS CLOGGED

### 3.3 AIR HANDLING EQUIPMENT

LOCATION F#L  
BLDG. NO. 116

#### FANS

Type	<u>EXHAUST</u>	<u>BATH EXHAUST</u>		
Unit/Zone	<u># S10P</u>	<u>#</u>	<u>#</u>	<u>#</u>
Manufacturer				
Model No.	<u>CRF-135</u>	<u>CRF-82</u>		
Type				
RPM of Fan				
Motor HP	<u>1/8 HP</u>	<u>1/25 HP</u>		
Motor Volts	<u>230V/1φ</u>	<u>115V</u>		
Motor FLA	<u>1.6</u>	<u>1.9</u>		
Measured Amps				
CFM (from Plans)				
Notes				

#### COILS

Indicate capacities where found:

##### COOLING

DX \_\_\_\_\_  
H<sub>2</sub>O \_\_\_\_\_  
OTHER \_\_\_\_\_

##### HEATING

GAS \_\_\_\_\_  
H<sub>2</sub>O \_\_\_\_\_  
ELEC \_\_\_\_\_  
OTHER \_\_\_\_\_

##### HUMIDIFICATION

ELEC \_\_\_\_\_  
STEAM \_\_\_\_\_  
H<sub>2</sub>O \_\_\_\_\_  
OTHER \_\_\_\_\_

##### AUX/MISC OTHER

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

#### FILTERS

Type	_____	_____	_____
Condition	_____	_____	_____
Manometer Reading 1/	_____	_____	_____

1/ Record only if manometer is installed on the unit.

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

- a. Is System Supported from (check one): ☐ Central Plant ☒ One System per Building  
☐ Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: 120 °F \_\_\_\_\_ °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:  
1" 15 FT
- d. Is Piping System Insulated and Condition: Yes
- e. Is Hot Water Circulated? NO
- 1) Condition of circulator - 3) Is aquastat provided? -  
2) Circulator capacity - 4) Aquastat temperature setting -

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- |  |                 |            |       |
|--|-----------------|------------|-------|
| a. Location                                | <u>Garage</u>   | _____      | _____ |
| b. Areas Served                            | <u>AZ</u>       | _____      | _____ |
| c. Manufacturer and Model                  | <u>AO Smith</u> | _____      | _____ |
| d. Energy (Oil, Gas, Electric, Coal, Etc.) | <u>-</u>        | _____      | _____ |
| e. Type Heaters & Quantities:              |                 |            |       |
| 1) Storage                                 | <u>-</u>        | _____      | _____ |
| 2) Instantaneous                           | <u>-</u>        | _____      | _____ |
| 3) Semi-Instantaneous                      | <u>-</u>        | _____      | _____ |
| f. Heater Size and Storage Capacity        | <u>20 gal</u>   | _____      | _____ |
| g. Heating Capacity                        | <u>15 MBH</u>   | _____      | _____ |
| h. Type Controls (Air, Steam, Electric)    | <u>-</u>        | _____      | _____ |
| i. When Installed & Condition              | <u>-</u>        | _____      | _____ |
| j. Heater Temperature Setting              | <u>-</u>        | _____      | _____ |
| k. Average Water Maintained Temperature    | <u>-</u>        | _____      | _____ |
| l. Temperature Differential (j) - (k)      | <u>-</u>        | _____      | _____ |
| m. Is Hot Water Supply Adequate:           | <u>-</u>        | _____      | _____ |
| n. Insulation Thickness                    | <u>-</u>        | Type _____ | _____ |
| o. Insulation Material                     | <u>-</u>        | _____      | _____ |

LOCATION FHL  
BLDG. NO. 116

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

CONTROL SYSTEM:

CONTROLLERS:

☐

ELECTRIC

☐

PNEUMATIC

☐

ELECTRONIC

OPERATION:

☐

MANUAL

☐

CONTINUOUS

☐

DEMAND

☒

TIME CLOCK

☐

EMCS

MFG \_\_\_\_\_

MODEL \_\_\_\_\_

LOCATION \_\_\_\_\_

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

HEAT/COOLING T-STAT

24-HR TIME CLOCK ON 0600

OFF 1900

CONTROL/MISCELLANEOUS PROCESS/SKETCHES

[illegible]

### LIGHTING LEGEND:

### Fixture Types:

Recessed = R  
Suspended = S  
Ventilated = V  
Pole Mounted = PM  
Other--Describe

**Lamp Types:**

Incandescent = I  
Fluorescent = F  
Sodium Vapor = SV  
Mercury Vapor = MV  
Metal Halide = MH  
Other--Describe

**Window Code:**

If there are windows, indicate:

Curtains =	C
Shades =	S
No Shading =	NS

**Tasks Code:**

1 = Corridors  
2 = Kitchens  
3 = Dining  
4 = Offices-general  
5 = Offices-bookkeeping  
(ledgers only)  
6 = Offices-drafting  
7 = Laundry  
8 = Toilets  
9 = Sleeping quarters  
10 = Supply rooms  
11 = Repair shops  
12 = Storage room  
13 = Retail store  
(PX, commissary)  
Other (describe on  
audit form)  
E = Exterior



LOCATION FHL  
BLDG. NO. 116

4.2 LIGHTING (continued)

4.2.2 Exterior Lighting

ACTUAL NO. OF FIXTURES	TYPE OF FIXTURE	NO. OF FIXTURES IN USE	WATTS/ FIXTURE	TOTAL WATTS	CONTROL TYPE*	REMARKS
<u>1</u>	<u>Lps</u>	<u>1</u>	<u>75</u>	<u>75</u>	<u>M</u>	

\* M = Manual    T = Timer    P = Photocell    Enter schedule under Remarks.

CALCULATIONS

WATTS OF INTERIOR LIGHTING

Actual at time of survey NA

Total installed NA

WATTS OF EXTERIOR LIGHTING

Actual on at time of survey NA

Total installed NA

LIGHTING-EXTERIOR

## 2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHL SURVEYED BY PJB/BIH DATE 10/7  
BUILDING NUMBER T-119 FUNCTION/USE FIRE HOUSE (Now USED FOR STORAGE)  
INFORMATION SOURCE (DWG. NO./PERSON) Visual

## GENERAL BUILDING DATA

BUILDING AGE: OLD YEARS

DUPLICATE BUILDING NOS: \_\_\_\_\_

\_\_\_\_\_ TOTAL: \_\_\_\_\_

SIMILAR BUILDING NOS: \_\_\_\_\_

\_\_\_\_\_ TOTAL: \_\_\_\_\_

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) ☐

NO. OF OCCUPANTS 114  
USE

Indicate (number and) duration of occupants each day

MISCELLANEOUS EQUIPMENT: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

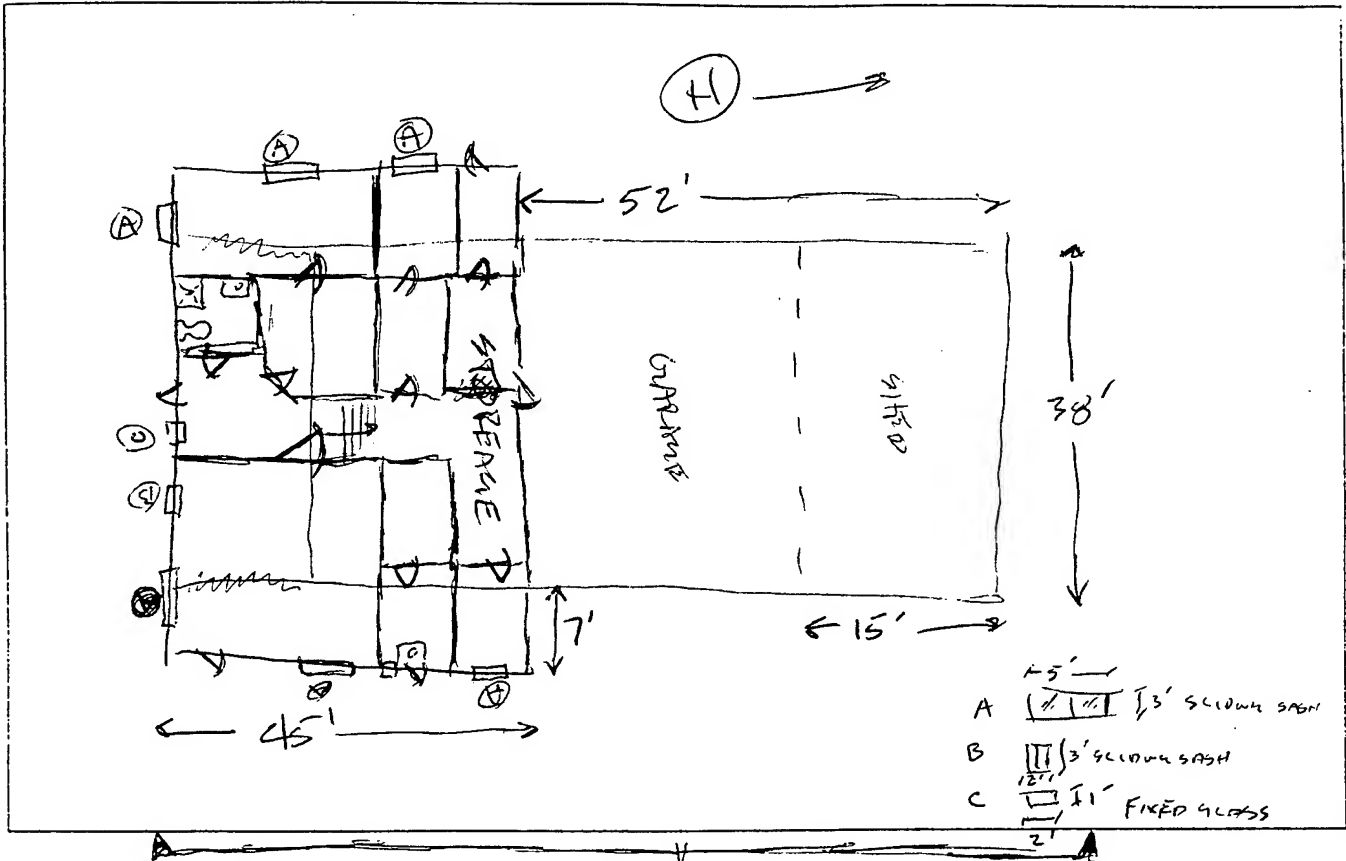
ADDITIONAL COMMENTS, CRITICAL LOADS: \_\_\_\_\_

CRAWL SPACE: VENTILATED ☐ EXHAUSTED ☐

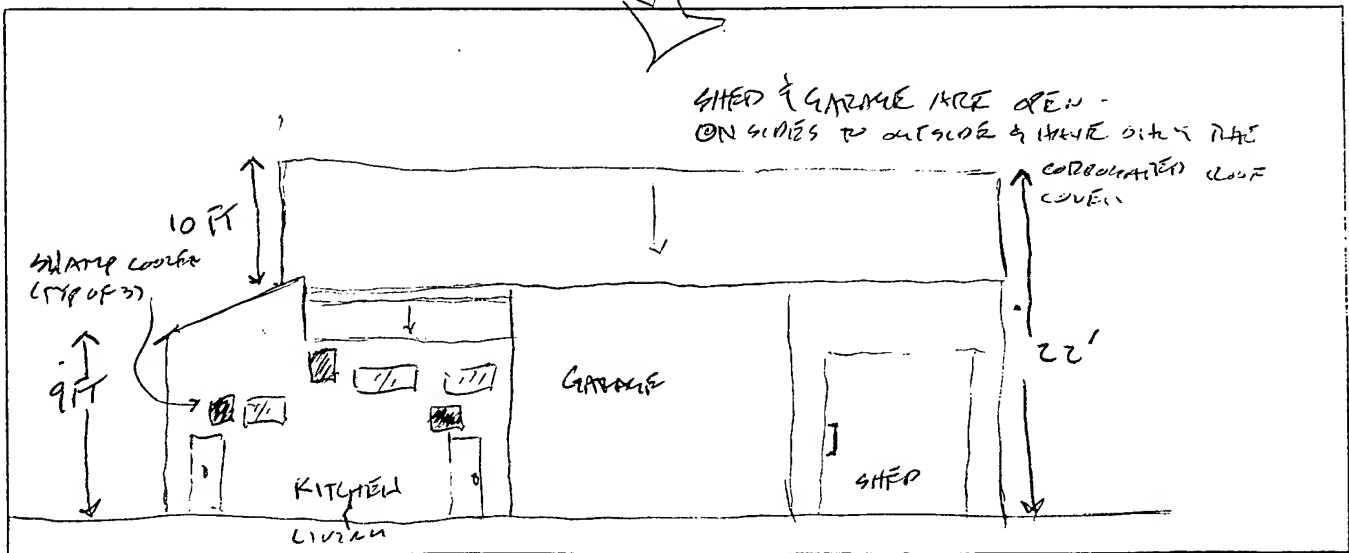
ATTIC:            VENTILATED ☐            EXHAUSTED ☐

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



BUILDING FLOOR PLAN AND  
 ELEVATION SKETCHES

TOTAL AREA	U-VALUE
------------	---------

*GLAZING:	**FRAME:	**SHADING:	***VISIBILITY:	WINDOW TYPES:
1 - ORDINARY	W - WOOD	A - SOLAR FILM	E - AWNING	1 - DOUBLE HUNG
2 - 1" PLATE	M - METAL	B - VEN BLIND	F - SOLAR SCREEN	2 - SINGLE HUNG
3 - HEAT ABSORBING	T - METAL/THERMAL BREAK	C - STORM WINDOW	G - OVERHANG	3 - SLIDING
4 - TINTED		D - DRAPES	OTHER - SPECIFY	4 - CASEMENT
				5 - LOUVERED
				6 - FIXED GLASS

2.4 BUILDING ENVELOPE

LOCATION FH2  
BLDG. NO. 119

CONSTRUCTION

WALL KITCHEN COLOR: D ☐ M ☐ L ☒

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
WOOD SIDING	1/4"	
PLYWOOD	1/4"	
WOOD GRID	2"	
GYP BOARD	5/8"	
INSIDE FILM		
Insulation		TOTAL

U-FACTOR  AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
		TOTAL

U-FACTOR  AREA

BUILDING SKIRTING MATERIAL

ROOF (INCL. CLG.) TYPE: F ☐ P ☐  
COLOR: D ☐ M ☐ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
CORRUGATED METAL OFFRAME		
PLYWOOD	1/4"	
WOOD PLANK		
AIR SPACE	4 FT	
GYP BOARD	5/8"	
INSIDE FILM		
Insulation		TOTAL

U-FACTOR  AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
		TOTAL

U-FACTOR  AREA

SECTION 3

MECHANICAL SYSTEMS DATA

5 SWAMP COOLERS

1 ELECTRIC RESISTANCE SPACE HEATER

} NONE  
IN  
USE

# 3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

LOCATION FTH  
BLDG. NO. 119

- a. Is System Supported from (check one):  
☐ Central Plant  
☒ One System per Building  
☐ Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: NA °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:  
3/4" IT
- d. Is Piping System Insulated and Condition: NO
- e. Is Hot Water Circulated? NO
- 1) Condition of circulator NA 3) Is aquastat provided? NA  
2) Circulator capacity NA 4) Aquastat temperature setting NA

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- |  |                          |      |  |
|--|--------------------------|------|--|
| a. Location                                | <u>ATTIC</u>             |      |  |
| b. Areas Served                            |                          |      |  |
| c. Manufacturer and Model                  | <u>AMERICAN ESG 41LP</u> |      |  |
| d. Energy (Oil, Gas, Electric, Coal, Etc.) | <u>PROPANE</u>           |      |  |
| e. Type Heaters & Quantities:              |                          |      |  |
| 1) Storage                                 | <u>-</u>                 |      |  |
| 2) Instantaneous                           | <u>-</u>                 |      |  |
| 3) Semi-Instantaneous                      | <u>-</u>                 |      |  |
| f. Heater Size and Storage Capacity        | <u>40 GAL</u>            |      |  |
| g. Heating Capacity                        | <u>29 MBH 11241</u>      |      |  |
| h. Type Controls (Air, Steam, Electric)    | <u>-</u>                 |      |  |
| i. When Installed & Condition              | <u>-</u>                 |      |  |
| j. Heater Temperature Setting              | <u>-</u>                 |      |  |
| k. Average Water Maintained Temperature    | <u>-</u>                 |      |  |
| l. Temperature Differential (j) - (k)      | <u>-</u>                 |      |  |
| m. Is Hot Water Supply Adequate:           | <u>-</u>                 |      |  |
| n. Insulation Thickness                    | <u>-</u>                 | Type |  |
| o. Insulation Material                     | <u>-</u>                 |      |  |

NO INSULATION ON ANY PIPING  
OR WATER HEATER ITSELF  
(NOT IN USE)

DOMESTIC HOT WATER SYSTEM/EQUIPMENT

11

BLDG.

LOCATION

## LIGHTING

[illegible]

LIGHTING LEGEND:

Fixture Types:

Recessed = R  
Suspended = S  
Ventilated = V  
Pole Mounted = PM  
Other--Describe

**Lamp Types:**

Incandescent = I  
Fluorescent = F  
Sodium Vapor = SV  
Mercury Vapor = MV  
Metal Halide = MH  
Other--Describe

**Window Code:**

If there are windows, indicate:

- Curtains = C
- Shades = S
- No Shading = NS

**Tasks Code:**

1 = Corridors  
2 = Kitchens  
3 = Dining  
4 = Offices-general  
5 = Offices-bookkeeping (ledgers only)  
6 = Offices-drafting  
7 = Laundry  
8 = Toilets  
9 = Sleeping quarters  
10 = Supply rooms  
11 = Repair shops  
12 = Storage room  
13 = Retail store (PX, commissary)  
Other (describe on audit form)  
E = Exterior



# 2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION Fit SURVEYED BY RUB/BIH DATE Oct 92  
 BUILDING NUMBER 120 FUNCTION/USE Fire House  
 INFORMATION SOURCE (DWG. NO./PERSON) SURVEY

## GENERAL BUILDING DATA

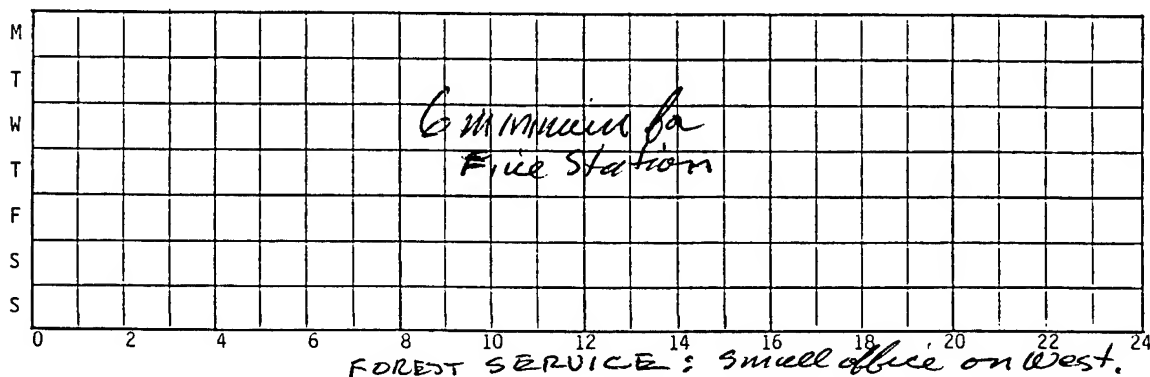
BUILDING AGE: NFD YEARS

DUPLICATE BUILDING NOS: \_\_\_\_\_  
 TOTAL: \_\_\_\_\_

SIMILAR BUILDING NOS: \_\_\_\_\_  
 TOTAL: \_\_\_\_\_

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) ☒ NO. OF OCCUPANTS 6

Indicate (number and) duration of occupants each day



MISCELLANEOUS EQUIPMENT: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

ADDITIONAL COMMENTS, CRITICAL LOADS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

CRAWL SPACE: VENTILATED ☒ EXHAUSTED ☐

ATTIC: VENTILATED ☐ EXHAUSTED ☐

LOCATION

FHL

BLDG. NO.

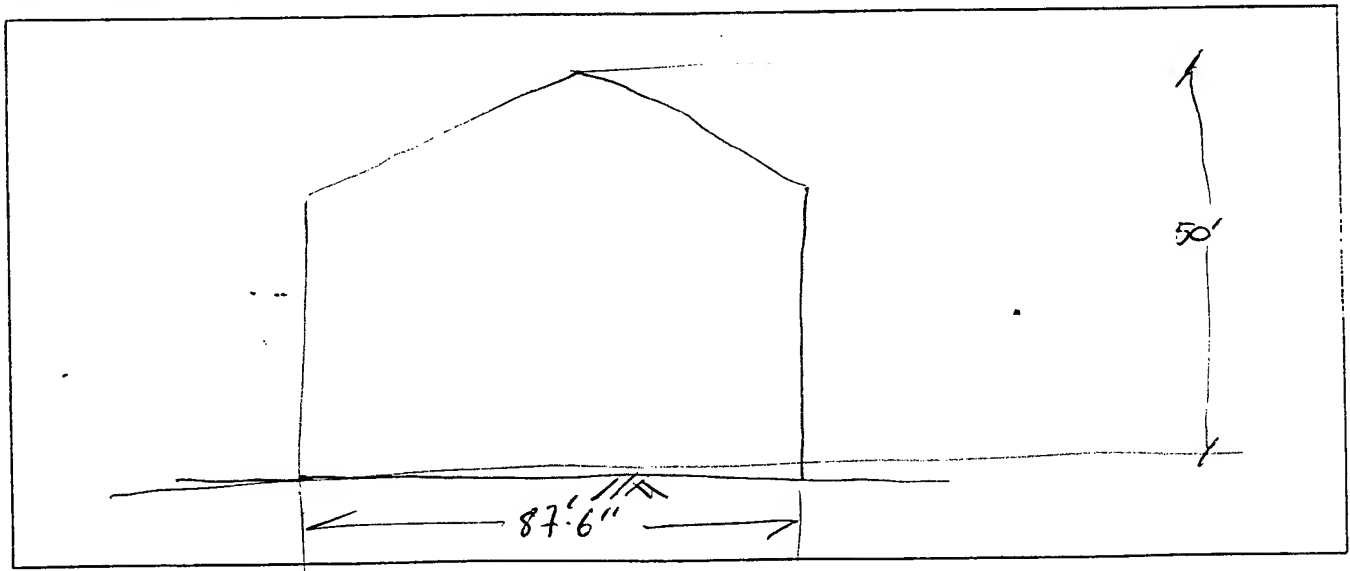
120

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)

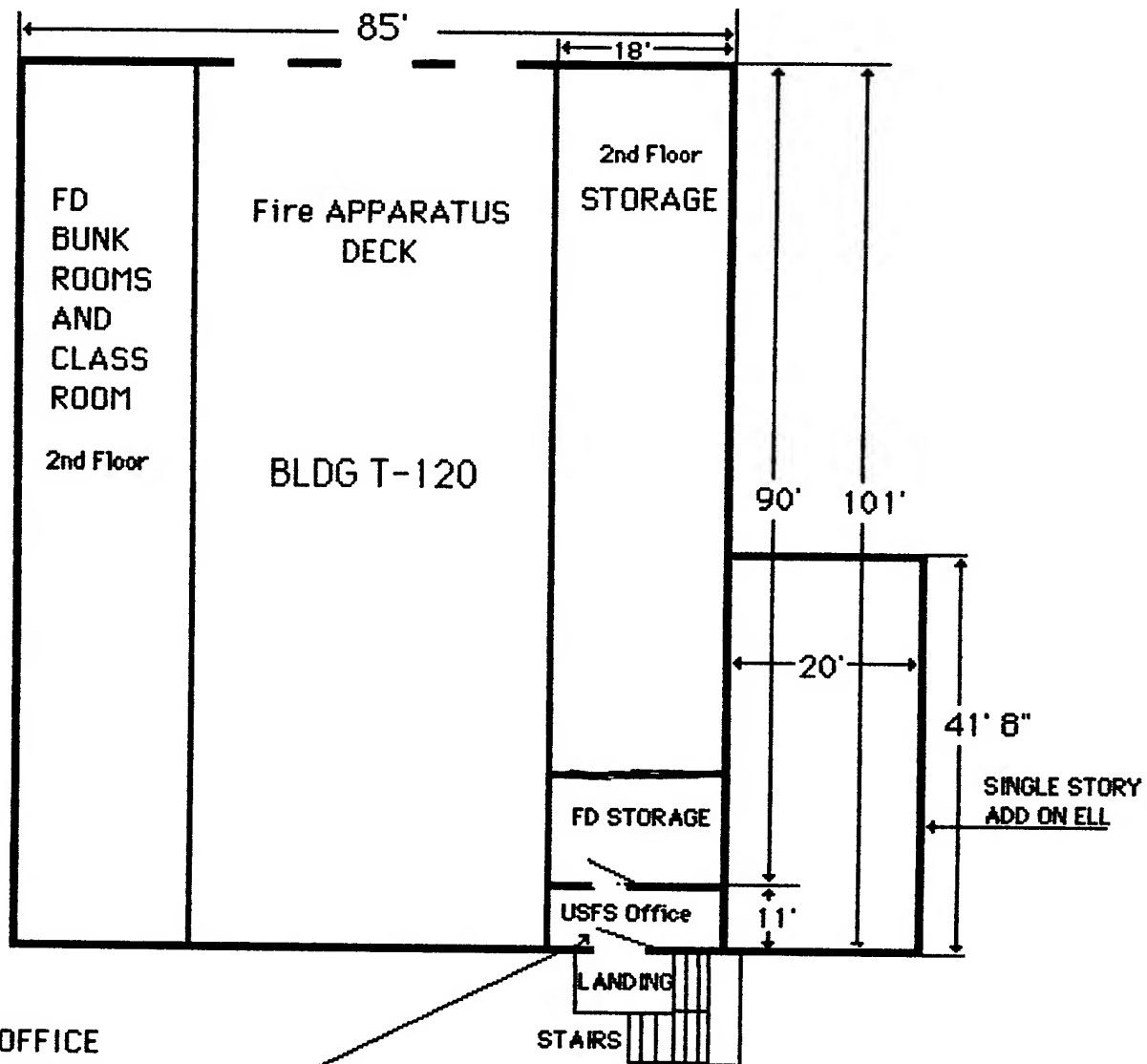
*refer to attached sketches*

SOUTH ELEVATION (Show floor to ceiling elevations)

BUILDING FLOOR PLAN AND  
ELEVATION SKETCHES

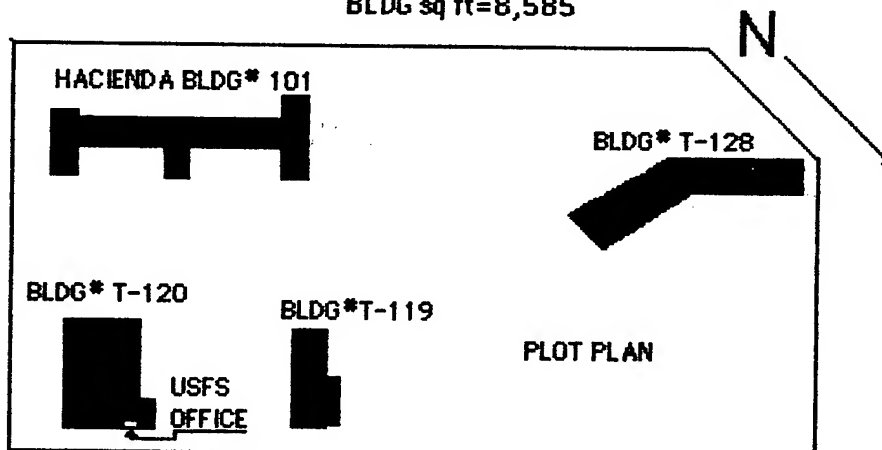
# FHL FIRE DEPT. BLDG T-120

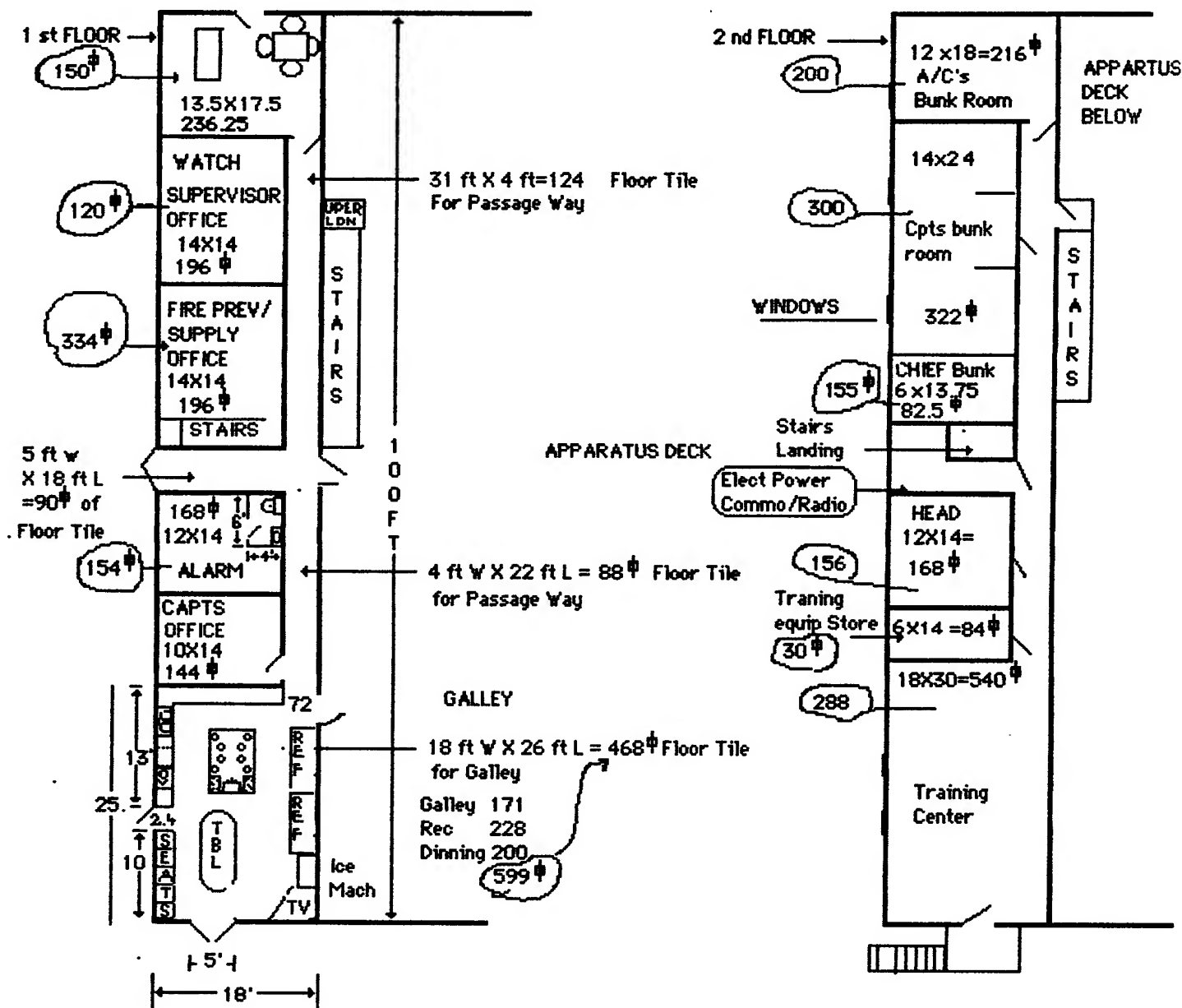
23 AUG '88



USFS OFFICE  
11 ft. X 18 ft  
198 Sq ft.

BLDG sq ft=8,585





### 1 st FLOOR

1,800  $\phi$  CEILING TILE W/CHANNELS MAIN FLOOR ONLY

100 ft LONG X 18 ft WIDE = 1,800 sq ft. X 8 ft HIGH = 14,400 CUBIC ft.

x 2 floors = 28,800 cubic ft. for AIRCONDITION/HEATING. 10 Ton unit

TWO COMPANY HEADQUARTERS FIRE STATION 8,200  $\phi$  [8,585  $\phi$ ]

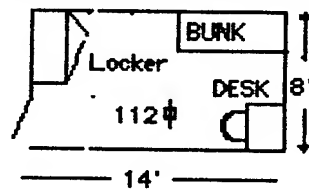


Scale 1/16" = 1'

29 JUNE 1988

120

CREWS UPSTAIRS BUNK ROOMS



CREWS MAIN DECK  
BUNK ROOMS

120

100'

26 JULY 1990  
MEETING

SLIDE

STAIRS

HEAD  
20 X 14'  
280

SLIDE  
18 X 16'

STAIRS

11 X 14'  
BATH

6 X 14'  
BATH

U.S.  
FOREST SERVICE  
OFFICE  
11' X 14'

TOTAL AREA	U-VALUE
------------	---------

WINDOW TYPES:	
1 - DOUBLE HUNG	4 - CASEMENT
2 - SINGLE HUNG	5 - LOUVERED
3 - SLIDING	6 - FIXED GLASS

\*\*\*VISIBILITY:  
E - AWNING  
F - SOLAR SCREEN  
G - OVERHANG  
OTHER - SPECIFY

\*\*\*SHADING:

A -	SOLAR FILM
B -	VEN BLIND
C -	STORM WINDOW
D -	DRAPES

W - WOOD  
M - METAL  
T - METAL/THERMAL BREAK

\*GLAZING:

1 -	ORDINARY
2 -	1/2" PLATE
3 -	HEAT ABSORBING
4 -	TINTED

2.4 BUILDING ENVELOPE

LOCATION File  
BLDG. NO. 120

CONSTRUCTION

WALL  COLOR: D ☐ M ☒ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
Metal wall		
1" insulation		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

BUILDING SKIRTING MATERIAL

ROOF (INCL. CLG.)

TYPE: F ☐ P ☒  
COLOR: D ☐ M ☒ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
Metal roof		
2" insulation		
Acoustic tile		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

### 3.1 HEATING EQUIPMENT

LOCATION PHC  
BLDG. NO. 120

Heat Source:

☒ Furnace ☐ Steam Boiler ☐ Hot Water Boiler ☐ Heat Pump ☐ Supplied Steam or Hot Water (External Boiler Plant) ☐ Other 21165MBH PWRP. UNIT HEATERS

Capacity: 165 MBtu/Hr or \_\_\_\_\_ Boiler HP or \_\_\_\_\_ Lbs/Hr Steam or \_\_\_\_\_ GPM Hot Water

Manufacturer: LENUOX Model No.: G1225-165

Boiler/Furnace Control: ☒ Manual ☐ Time Clock ☐ Demand ☐ EMCS ☐ O<sub>2</sub> Trim

Operating Temperature: NA °F Operating Pressure: NA PSI

Fuel: ☐ Nat. Gas Only ☐ Nat. Gas/  
☒ Other (Specify) PROPANE

Draft: ☐ Forced  
☐ Induced

Burner: Mfg. \_\_\_\_\_ Model No. \_\_\_\_\_ Metering Equipment: ☐ Yes ☐ No

Operating Schedule: Weekdays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

MANUAL Weekdays & Holidays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

Operating Season: From \_\_\_\_\_ Mon/Day, to \_\_\_\_\_ Mon/Day

Flue Gas Temperature: \_\_\_\_\_ °F Receiver Tank Conditions: \_\_\_\_\_ PSIG \_\_\_\_\_ °F

If supplied Steam or Hot Water: Steam Pressure \_\_\_\_\_ PSI Hot Water Supply Temp. \_\_\_\_\_ °F Hot Water Return Temp. \_\_\_\_\_ °F

Insulation: (1) Boiler (2) Other (Specify) \_\_\_\_\_  
Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup> Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>  
None ☐ Temp. \_\_\_\_\_ °F None ☐ Temp. \_\_\_\_\_ °F

Pump: No. of Pumps \_\_\_\_\_ V/PH/FLA \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_ RPM \_\_\_\_\_  
HW Pump Starter: ☐ HOA ☐ Reset P/B ☐ S/S Push Button Interlocked with Boiler? ☐ Yes ☐ No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. \_\_\_\_\_ Model \_\_\_\_\_

Condensate Pumps/Hot Water Pumps: Mfg. KA Model \_\_\_\_\_ HP \_\_\_\_\_

Boiler/Furnace Condition: \_\_\_\_\_

Describe \_\_\_\_\_

Occupant Discomfort (Evaluate): \_\_\_\_\_

HEATING EQUIPMENT



## 3.2 COOLING EQUIPMENT

LOCATION F112  
BLDG. NO. 120

PAD MTD COOLING/HTG UNIT - 2 EA

## COMPRESSOR(S)/CHILLER

Manufacturer CARRIER  
 Model No. 580AP048100  
 Size \_\_\_\_\_  
 Refrigerant R-22  
 Motor HP (if available) \_\_\_\_\_  
 Motor Voltage 208V/3P  
 Motor FLA 15.4  
 Measured Amps \_\_\_\_\_

## CONDENSER/CONDENSING UNIT

Water Cooled COND EVAP  
 Air Cooled \_\_\_\_\_  
 Evaporative \_\_\_\_\_  
 Manufacturer \_\_\_\_\_  
 Model No. \_\_\_\_\_  
 Size \_\_\_\_\_  
 Type of Fan \_\_\_\_\_  
 Fan Motor HP 1/3 3/4  
 Fan Motor Voltage 208V/1P 208V/1P  
 Fan Motor FLA 2.2 4.5  
 Measured Amps \_\_\_\_\_

## COOLING TOWER

Gravity \_\_\_\_\_  
 Mech. Draft \_\_\_\_\_  
 Manufacturer \_\_\_\_\_  
 Model No. \_\_\_\_\_  
 Type of Fan NA  
 Fan RPM \_\_\_\_\_  
 Fan Motor HP \_\_\_\_\_  
 Fan Motor Voltage \_\_\_\_\_  
 Fan Motor FLA \_\_\_\_\_  
 Measured Amps \_\_\_\_\_

CHILLED WATER PUMPS (If more than one, how many  
operative during normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
 Model No. \_\_\_\_\_  
 Capacity Gals. NA  
 Head, Ft. \_\_\_\_\_  
 Motor HP \_\_\_\_\_  
 Motor Voltage \_\_\_\_\_  
 Motor FLA \_\_\_\_\_  
 Measured Amps \_\_\_\_\_

## CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
 Model No. \_\_\_\_\_  
 Capacity, Gals. \_\_\_\_\_  
 Head, Ft. NA  
 Motor HP \_\_\_\_\_  
 Motor Voltage \_\_\_\_\_  
 Motor FLA \_\_\_\_\_  
 Measured Amps \_\_\_\_\_

REMARKS: PROPANE HEATING SECTION 100MBH INPUT  
80MBH OUTPUT

FILTERS O.K.

COOLING EQUIPMENT

### 3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

LOCATION FIR  
BLDG. NO. 120

- a. Is System Supported from (check one): ☐ Central Plant ☒ One System per Building  
☐ Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: 110 °F \_\_\_\_\_ °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:  
1" 70 FT  
\_\_\_\_\_  
\_\_\_\_\_
- d. Is Piping System Insulated and Condition: MINIMAL
- e. Is Hot Water Circulated? YES
- 1) Condition of circulator \_\_\_\_\_ 3) Is aquastat provided? \_\_\_\_\_  
2) Circulator capacity 1/4 HP 4) Aquastat temperature setting \_\_\_\_\_

#### DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- |  |                     |                       |       |
|--|---------------------|-----------------------|-------|
| a. Location                                | <u>STED</u>         | _____                 | _____ |
| b. Areas Served                            | <u>LIVING</u>       | _____                 | _____ |
| c. Manufacturer and Model                  | <u>AMERICAN MFG</u> | <u>DAID 270-100-1</u> | _____ |
| d. Energy (Oil, Gas, Electric, Coal, Etc.) | <u>PROPANE</u>      | _____                 | _____ |
| e. Type Heaters & Quantities:              |                     |                       |       |
| 1) Storage                                 | _____               | _____                 | _____ |
| 2) Instantaneous                           | _____               | _____                 | _____ |
| 3) Semi-Instantaneous                      | _____               | _____                 | _____ |
| f. Heater Size and Storage Capacity        | <u>100 GAL</u>      | _____                 | _____ |
| g. Heating Capacity                        | <u>240 MBT</u>      | _____                 | _____ |
| h. Type Controls (Air, Steam, Electric)    | <u>ELECTRIC</u>     | _____                 | _____ |
| i. When Installed & Condition              | <u>NID</u>          | _____                 | _____ |
| j. Heater Temperature Setting              | <u>-</u>            | _____                 | _____ |
| k. Average Water Maintained Temperature    | <u>-</u>            | _____                 | _____ |
| l. Temperature Differential (j) - (k)      | <u>-</u>            | _____                 | _____ |
| m. Is Hot Water Supply Adequate:           | <u>-</u>            | _____                 | _____ |
| n. Insulation Thickness                    | <u>-</u>            | Type _____            | _____ |
| o. Insulation Material                     | <u>-</u>            | _____                 | _____ |

DOMESTIC HOT WATER SYSTEM/EQUIPMENT

adding 1/2 lbs. - giving 1 lb.

EAST SIDE - FIRST FLOOR

下江

125

**LIGHTING LEGEND:**

Recessed = R  
Suspended = S  
Ventilated = V  
Pole Mounted = PM  
Other--Describe

Incandescent = I  
Fluorescent = F  
Sodium Vapor = SV  
Mercury Vapor = MV  
Metal Halide = MH  
Other--Describe

**If there are windows, indicate:**

Curtains = C  
Shades = S  
No Shading = NS

1 = Corridors	6 = Offices-drafting	12 = Storage room
2 = Kitchens	7 = Laundry	13 = Retail store
3 = Dining	8 = Toilets	(px. commissary)
4 = Offices-general	9 = Steeping quarters	Other (describe on
5 = Offices-bookkeeping (ledgers only)	10 = Supply rooms	audit form)
	11 = Repair shops	E = Exterior

## LIGHTING

CAUTION: SBRON

LOCATION

**BLDG.**

120

[illegible]

### LIGHTING LEGEND:

### Tasks Code:

1 = Corridors  
2 = Kitchens  
3 = Dining  
4 = Offices-general  
5 = Offices-bookkeeping  
(ledgers only)  
6 = Offices-drafting  
7 = Laundry  
8 = Toilets  
9 = Sleeping quarters  
10 = Supply rooms  
11 = Repair shops  
12 = Storage room  
13 = Retail store  
(Pet, commissary)  
Other (describe on  
audit form)  
E = Exterior

**Window Code:**

If there are windows, indicate:

Curtains = C  
Shades = S  
No Shading = NS

**! man Typoc:**

Incandescent = I  
Fluorescent = F  
Sodium Vapor = SV  
Mercury Vapor = MV  
Metal Halide = MH  
Other--Describe

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Recessed = R  
Suspended = S  
Ventilated = V  
Pole Mounted = PM  
Other--Describe

4.2.1 Interior Lighting

LIGHTING

WEST SIDE - FIRST FLOOR

LOCATION

BLDG.

120

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/ DAY ON	DAYS/ YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT <sup>2</sup> )	WATTS PER SQ.-FT. (W/FT <sup>2</sup> )	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS C E I L L I N G	FINISH C E I L L I N G	WINDOW CODE	REMARKS (LIGHTS/SWITCH)
Wright Room	S	F96T12 HO	2	2												
12																
13																
8A	S	F 34	2	2												
	S	F 60	1	2												
Ver. bldg	S	F 40	1	1												
Lab	S	F 40	2	2												
Laundry	S	F96T12 HO	2	1												
Bedroom A	S	F 40	2	3												
Pr C	S	F 60	1	1												
Bedroom B	R	F 40	4	14							40					
TOTAL BUILDING LIGHTING ENERGY																

LIGHTING LEGEND:

Fixture Types:

- Recessed = R
- Suspended = S
- Ventilated = V
- Pole Mounted = PM
- Other--Describe

Lamp Types:

- Incandescent = I
- Fluorescent = F
- Sodium Vapor = SV
- Mercury Vapor = MV
- Metal Halide = MH
- Other--Describe

Window Code:

- If there are windows, indicate:
- Curtains = C
- Shades = S
- No Shading = NS

Tasks Code:

- 1 = Corridors
- 2 = Kitchens
- 3 = Dining
- 4 = Offices-general
- 5 = Offices-bookkeeping (ledgers only)
- 6 = Offices-drafting
- 7 = Laundry
- 8 = Toilets
- 9 = Sleeping quarters
- 10 = Supply rooms
- 11 = Repair shops
- 12 = Storage room
- 13 = Retail store (PX, commissary)
- Other (describe on audit form)
- E = Exterior

4.2.1 Interior Lighting

LOCATION 1-712 BLDG. 120

LIGHTING  
EAST SIDE - 2ND FLOOR

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/ DAY ON	DAYS/ YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT <sup>2</sup> )	WATTS PER SQ. FT.	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS	FINISH	WINDOW CODE	REMARKS (LIGHTS/SWITCH)
Classroom	S	F 34	2	12							60	8'-0"	C E I L L I N G	F L L O R		3 sw
	BACK	I 40	1	4							—					1 sw
12A	S	F 34	2	2							70					
8	R	Hout 250	1	2							—					0 Sep sw for both
	S	I 75	1	2							—					0 Sep sw.
	S	F 34	2	2							—					Sw w/ form
12B	S	I 200	1	1							90					
9A	S	F 34	2	2												
9B	S	F 34	2	6												
9C	S	F 34	2	2												
1	S	F 34	2	6												
TOTAL BUILDING LIGHTING ENERGY																

LIGHTING LEGEND:

- Fixture Types:  
 Recessed = R  
 Suspended = S  
 Ventilated = V  
 Pole Mounted = PM  
 Other--Describe
- Lamp Types:  
 Incandescent = I  
 Fluorescent = F  
 Sodium Vapor = SV  
 Mercury Vapor = MV  
 Metal Halide = MH  
 Other--Describe
- Window Code:  
 If there are windows, indicate:  
 Curtains = C  
 Shades = S  
 No Shading = NS
- Tasks Code:  
 1 = Corridors  
 2 = Kitchens  
 3 = Dining  
 4 = Offices-general  
 5 = Offices-bookkeeping (ledgers only)  
 6 = Offices-drafting  
 7 = Laundry  
 8 = Toilets  
 9 = Sleeping quarters  
 10 = Supply rooms  
 11 = Repair shops  
 12 = Storage room  
 13 = Retail store (PX, commissary)  
 Other (describe on audit form)  
 E = Exterior

120

SPECIAL ELECTRIC EQUIPMENT

[illegible]

SPECIAL ELECTRIC EQUIPMENT

# 2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHL SURVEYED BY BH DATE 6 OCT 92  
 BUILDING NUMBER P-121 FUNCTION/USE BOWLING CENTER  
 INFORMATION SOURCE (DWG. NO./PERSON) \_\_\_\_\_

## GENERAL BUILDING DATA

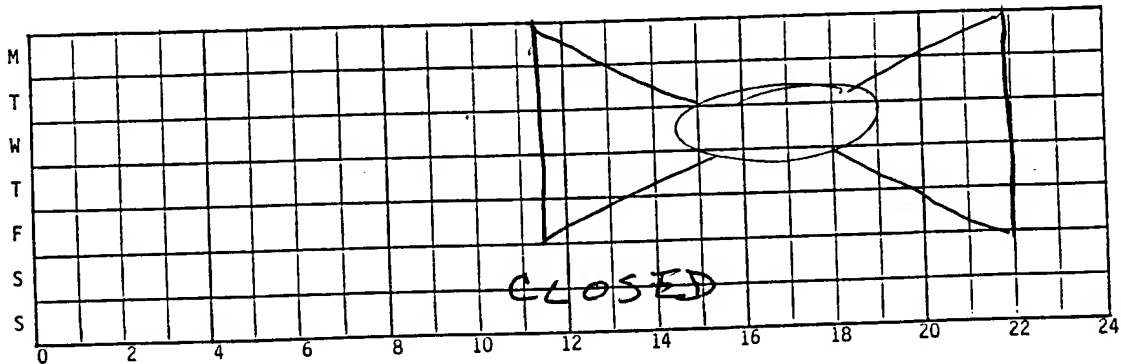
BUILDING AGE: \_\_\_\_\_ YEARS New

DUPLICATE BUILDING NOS: \_\_\_\_\_ TOTAL: \_\_\_\_\_

SIMILAR BUILDING NOS: \_\_\_\_\_ TOTAL: \_\_\_\_\_

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) ☐ NO. OF OCCUPANTS \_\_\_\_\_

Indicate (number and) duration of occupants each day



MISCELLANEOUS EQUIPMENT: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

ADDITIONAL COMMENTS, CRITICAL LOADS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

CRAWL SPACE: VENTILATED ☒ EXHAUSTED ☐

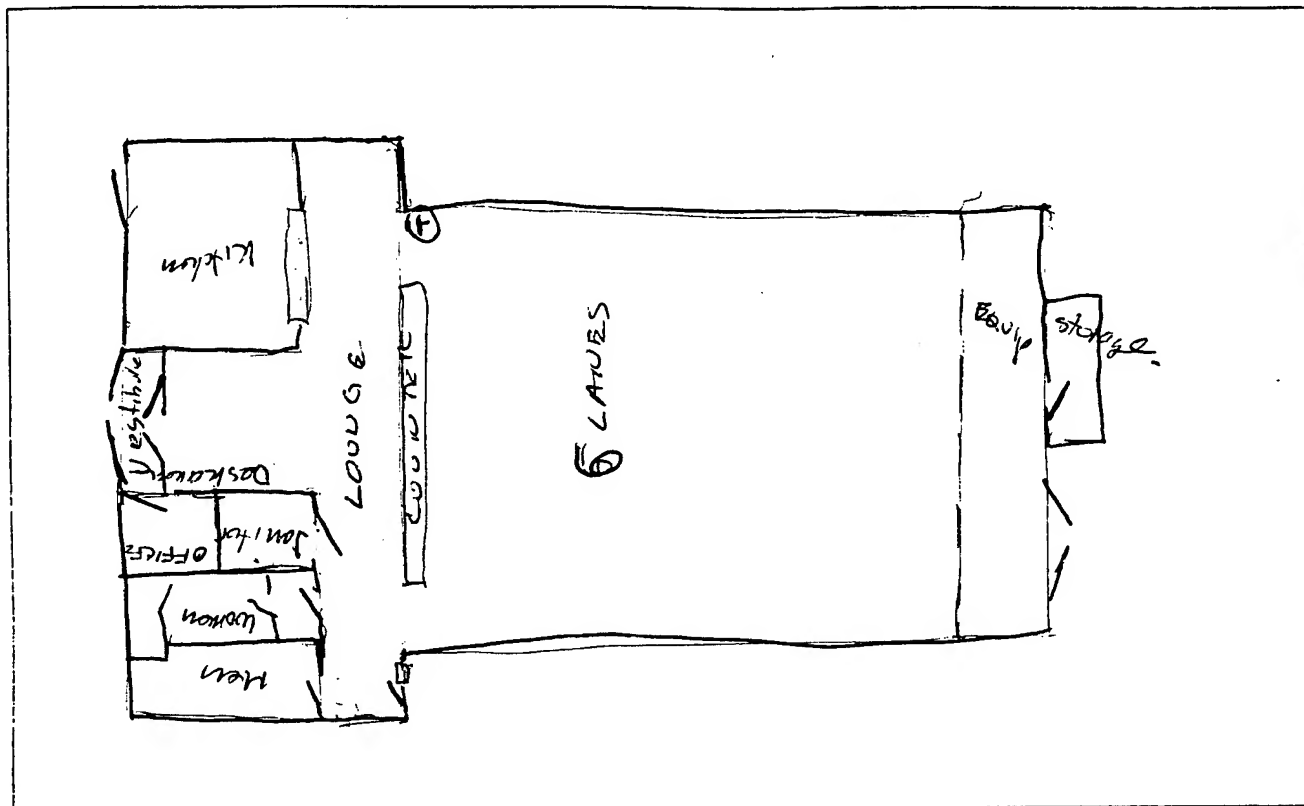
ATTIC: VENTILATED ☐ EXHAUSTED ☐



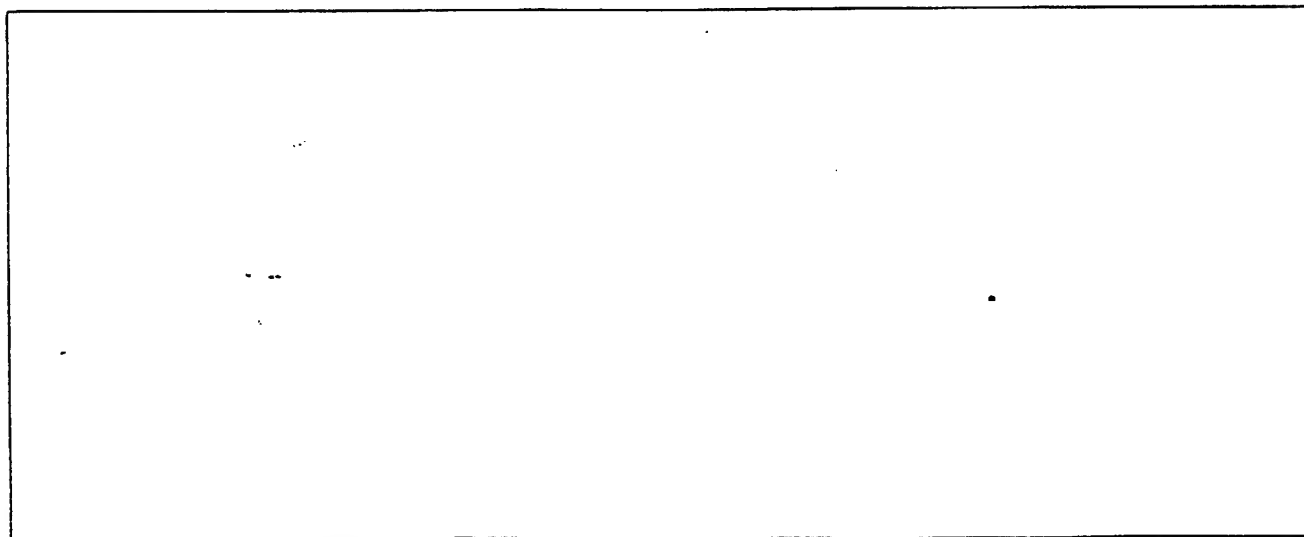
2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

LOCATION FtH  
BLDG. NO. 121

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



BUILDING FLOOR PLAN AND  
ELEVATION SKETCHES

[illegible]

LEGEND:

1 -	DOUBLE HUNG	4 -	CASEMENT
2 -	SINGLE HUNG	5 -	LOUVERED
3 -	SLIDING	6 -	FIXED GLASS

\*\*\*VISIBILITY:\*\*\*  
E - AWNING  
F - SOLAR SCREEN  
G - OVERHANG  
OTHER - SPECIFY

**\*\*\*SHADING:**

A - SOLAR FILM  
B - VEN BLIND  
C - STORM WINDOW  
D - DRAPES

W - WOOD  
M - METAL  
T - METAL/THERMAL BREAK

**\*GLAZING:**

1 -	ORDINARY
2 -	1" PLATE
3 -	HEAT ABSORBING
4 -	TINTED

*Refer to Bldg  
Plans*

2.4 BUILDING ENVELOPE

LOCATION FHL  
BLDG. NO. 121

CONSTRUCTION

WALL  COLOR: D ☐ M ☐ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
<i>STUCCO</i>	<i>5/8"</i>	
<i>METAL STUDS</i>	<i>—</i>	
<i>PE Insul</i>	<i>6"</i>	
<i>Dbl Board</i>	<i>1/2</i>	
INSIDE FILM		

*not in equip area behind pin settlers*

U-FACTOR  TOTAL AREA

ROOF (INCL. CLG.)

TYPE: F ☐ P ☐  
COLOR: D ☐ M ☐ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		

*leaking, poor roof*

U-FACTOR  TOTAL AREA

FLOOR SOG-LINO

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

BUILDING SKIRTING MATERIAL

3.14

3.2 COOLING EQUIPMENT & HEATINGLOCATION FHL  
BLDG. NO. 121

COMPRESSOR(S)/CHILLER PACKAGED AHU  
 Manufacturer CARRIER  
 Model No. 48DD024  
 Size \_\_\_\_\_  
 Refrigerant R-22  
 Motor HP (if available) \_\_\_\_\_  
 Motor Voltage 200V/3Ø  
 Motor FLA 80  
 Measured Amps 74/68/82 TOTAL UNIT  
COMPRESSOR ON

CONDENSER/CONDENSING UNIT  
 Water Cooled CONDENSER EVAP/SUPPLY  
 Air Cooled ✓ FAN  
 Evaporative \_\_\_\_\_  
 Manufacturer \_\_\_\_\_  
 Model No. \_\_\_\_\_  
 Size \_\_\_\_\_  
 Type of Fan \_\_\_\_\_  
 Fan Motor HP 22.7HP 5HP  
 Fan Motor Voltage 200V/1Ø 200V/3Ø  
 Fan Motor FLA 7.6 16.2  
 Measured Amps \_\_\_\_\_

COOLING TOWER  
 Gravity \_\_\_\_\_  
 Mech. Draft \_\_\_\_\_  
 Manufacturer \_\_\_\_\_  
 Model No. \_\_\_\_\_  
 Type of Fan \_\_\_\_\_  
 Fan RPM \_\_\_\_\_  
 Fan Motor HP \_\_\_\_\_  
 Fan Motor Voltage \_\_\_\_\_  
 Fan Motor FLA \_\_\_\_\_  
 Measured Amps \_\_\_\_\_

CHILLED WATER PUMPS (If more than one, how many  
 operative during normal operation: \_\_\_\_\_)  
 Manufacturer \_\_\_\_\_  
 Model No. \_\_\_\_\_  
 Capacity Gals. \_\_\_\_\_  
 Head, Ft. \_\_\_\_\_  
 Motor HP \_\_\_\_\_  
 Motor Voltage \_\_\_\_\_  
 Motor FLA \_\_\_\_\_  
 Measured Amps \_\_\_\_\_

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
 Model No. \_\_\_\_\_  
 Capacity, Gals. \_\_\_\_\_  
 Head, Ft. \_\_\_\_\_  
 Motor HP \_\_\_\_\_  
 Motor Voltage \_\_\_\_\_  
 Motor FLA \_\_\_\_\_  
 Measured Amps \_\_\_\_\_

REMARKS: PROPANE HEATING - 480 MBH INPUT  
360 MBH OUTPUT

COOLING EQUIPMENT

3.2

### 3.3 AIR HANDLING EQUIPMENT

LOCATION Ftr  
BLDG. NO. 121

#### FANS

Type	<u>5 each</u>		
Unit/Zone	<u>Roof Exhauster</u>		
Manufacturer	_____	_____	_____
Model No.	_____	_____	_____
Type	_____	_____	_____
RPM of Fan	_____	_____	_____
Motor HP	<u>1/3 HP each x 6 (3 above pin setters;</u>		
Motor Volts	<u>208V 3 phase; one per kitchen)</u>		
Motor FLA	_____	_____	_____
Measured Amps	_____	_____	_____
CFM (from Plans)	_____	_____	_____
Notes	_____	_____	_____

#### COILS

Refer to attached notes

Indicate capacities where found:

COOLING	HUMIDIFICATION
DX _____	ELEC _____
H <sub>2</sub> O _____	STEAM _____
OTHER _____	H <sub>2</sub> O _____
HEATING	OTHER _____
GAS _____	AUX/MISC OTHER _____
H <sub>2</sub> O _____	_____
ELEC _____	_____
OTHER _____	_____

#### FILTERS

Type	_____	_____	_____
Condition	_____	_____	_____
Manometer Reading <u>1/</u>	_____	_____	_____

1/ Record only if manometer is installed on the unit.

AIR HANDLING EQUIPMENT

3.4

DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENTLOCATION Fin  
BLDG. NO. 121

- a. Is System Supported from (check one): ☐ Central Plant ☐ One System per Building  
☒ Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: 121 °F 142 °
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:  
1" 60 ft
- d. Is Piping System Insulated and Condition: \_\_\_\_\_
- e. Is Hot Water Circulated? NO
- 1) Condition of circulator \_\_\_\_\_ 3) Is aquastat provided? \_\_\_\_\_  
2) Circulator capacity \_\_\_\_\_ 4) Aquastat temperature setting \_\_\_\_\_

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- | a. Location                                | STORAGE ROOM / SITOP | Kitchen Storage Room |
|--|----------------------|----------------------|
| b. Areas Served                            | SINK in Storage Room |                      |
| c. Manufacturer and Model                  | A/O Smith            | A/O Smith RGA 50801  |
| d. Energy (Oil, Gas, Electric, Coal, Etc.) | ELECTRIC 6790        | Propane              |
| e. Type Heaters & Quantities:              |                      |                      |
| 1) Storage                                 | 6 gal                | 31 gal 37,000 BTU/H  |
| 2) Instantaneous                           |                      |                      |
| 3) Semi-Instantaneous                      |                      |                      |
| f. Heater Size and Storage Capacity        | 6 gal                |                      |
| g. Heating Capacity                        | 1250 W               |                      |
| h. Type Controls (Air, Steam, Electric)    |                      |                      |
| i. When Installed & Condition              |                      |                      |
| j. Heater Temperature Setting              |                      |                      |
| k. Average Water Maintained Temperature    |                      | 121 °F               |
| l. Temperature Differential (j) - (k)      | 142 °F               |                      |
| m. Is Hot Water Supply Adequate:           |                      |                      |
| n. Insulation Thickness                    |                      |                      |
| o. Insulation Material                     |                      |                      |

never use this heater

Low in kit.  
Storage area  
needs new  
faucet w/ aspirators

DOMESTIC HOT WATER SYSTEM/EQUIPMENT

3.4

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHESLOCATION FHL  
BLDG. NO. 121

## CONTROL SYSTEM:

CONTROLLERS:



ELECTRIC



PNEUMATIC



ELECTRONIC

OPERATION:



MANUAL



CONTINUOUS



DEMAND



TIME CLOCK



EMCS

MFG

Honeywell

MODEL

T874A1150

LOCATION

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

Temp 68°F Honeywell  
inside  
T874A1150

Separate Heating & Cooling  
setpoints, not programmable

Time Clock set on = 0500 to 1900 for air cond.  
7 day timer - no day - plus.

24 Hr time clock - outside lights  
In. lights outside = 8 pm on to 0530

LIGHTING LOCATION FHL BLDG. 121  
Back-of-Kitchen Storage Room 2ea x 2 F40W100W FXTS R type

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT <sup>2</sup> )	WATTS PER SQ. FT.	MEASURED ILLUMINATION (FC)	COLORS	FINISH	WINDOW CODE	REMARKS (LIGHTS/SWITCH)
STORAGE	S	F 40	2/100	3							50	9'-11"			
PIN SETTERS	P	F 40	2/100	3							20	10+			
ALLIAYS	S	F 40	2/100	3							✓				Delayed to 6/Fxtr
BLVD	S	F 40	2/100	3							✓				Delayed to 6/Fxtr
RAVATION AREA	R	F 40	4/200	4							18				Delayed to 2
LOUSE	R	F 40	4/200	14							20/90				Delayed to 2
KITCHEN	R	F 40	4/200	2							25				Delayed to 2
FLON	S	F 40	2/100	1							✓				
WASH	S	F 40	2/100	1							✓				
JANITOR	S	F 75	1/75	1							✓				
KITCHEN	R	F 40	2/100	2							✓				
TOTAL BUILDING LIGHTING ENERGY															

Handwritten notes: 1 ea light fixture, 60w x 2 ea surface exit lights, 2 x 15w inc. lights

- Tasks Code:
- 1 = Corridors
  - 2 = Kitchens
  - 3 = Dining
  - 4 = Offices-general
  - 5 = Offices-bookkeeping (ledgers only)
  - 6 = Offices-drafting
  - 7 = Laundry
  - 8 = Toilets
  - 9 = Sleeping quarters
  - 10 = Supply rooms
  - 11 = Repair shops
  - 12 = Storage room
  - 13 = Retail store (PX, commissary)
  - Other (describe on audit form)
  - E = Exterior
- Window Code:
- If there are windows, indicate:
  - Curtains = C
  - Shades = S
  - No Shading = NS
- Lamp Types:
- Incandescent = I
  - Fluorescent = F
  - Sodium Vapor = SV
  - Mercury Vapor = MV
  - Metal Halide = MH
  - Other--Describe
- Fixture Types:
- Recessed = R
  - Suspended = S
  - Ventilated = V
  - Pole Mounted = PM
  - Other--Describe



LOCATION Fit  
BLDG. NO. 121

4.2 LIGHTING (continued)

4.2.2 Exterior Lighting

ACTUAL NO. OF FIXTURES	TYPE OF FIXTURE	NO. OF FIXTURES IN USE	WATTS/ FIXTURE	TOTAL WATTS	CONTROL TYPE*	REMARKS
<u>1</u> <u>2</u>	<u>Recessed</u> <u>Inc.</u> <u>60w</u>	<u>2</u>				
<u>711</u> <u>4</u>	<u>Pole</u> <u>100w Inc</u>	<u>4</u>				

\* M = Manual    T = Timer    P = Photocell    Enter schedule under Remarks.

CALCULATIONS

WATTS OF INTERIOR LIGHTING

Actual at time of survey \_\_\_\_\_

Total installed \_\_\_\_\_

WATTS OF EXTERIOR LIGHTING

Actual on at time of survey \_\_\_\_\_

Total installed \_\_\_\_\_

LIGHTING-EXTERIOR

LOCATION Fitz  
 BLDG. NO. 121

4.4 SPECIAL ELECTRIC EQUIPMENT

IDENTIFICATION NO.	LOCATION (ROOM)	DESCRIPTION (MANUFACTURER, MODEL NO.)	CONNECTED LOAD KW	REMARKS
	Pin Set	Pin Setters		
	Kitchen	Electric Griddle 10a		
		Deep Fat Fryer Zen.		
		Bun Warmer.		
		Reach-in Cold Box		
		Cold storage <sup>Chill Tank</sup>		
		Reach-In Refr R-12	115V 1ø	1/2HP comp.
		comp	115V <del>1ø</del>	PLA LRA
		Cond fan	-	7.9 57.0
		Evap fan	-	0.4 -
		lights	40	1.1 -
		Condensate Htrs	-	- -
		Defrost Load	600	0.9 -
	K	Convection Oven		
	Lounge	Video Games Zen.		
		Water Cooler		
		PC		
		TV		
		Pin Washer		
		Ball Washer.		
	Office	Computers 3a		
		Pin setters 6a		

SPECIAL ELECTRIC EQUIPMENT

LOCATION FAL SURVEYED BY BIH- RJB DATE OCT '92  
BUILDING NUMBER T-124 FUNCTION/USE FAMILY HOUSING  
INFORMATION SOURCE (DWG. NO./PERSON) INSPECTION

BUILDING AGE: \_\_\_\_\_ YEARS - OLDEN

DUPLICATE BUILDING NOS: \_\_\_\_\_

\_\_\_\_\_ TOTAL: \_\_\_\_\_

SIMILAR BUILDING NOS: \_\_\_\_\_

\_\_\_\_\_ TOTAL: \_\_\_\_\_

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) ☒ NO. OF OCCUPANTS

Indicate (number and) duration of occupants each day

MISCELLANEOUS EQUIPMENT: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

ADDITIONAL COMMENTS, CRITICAL LOADS: \_\_\_\_\_

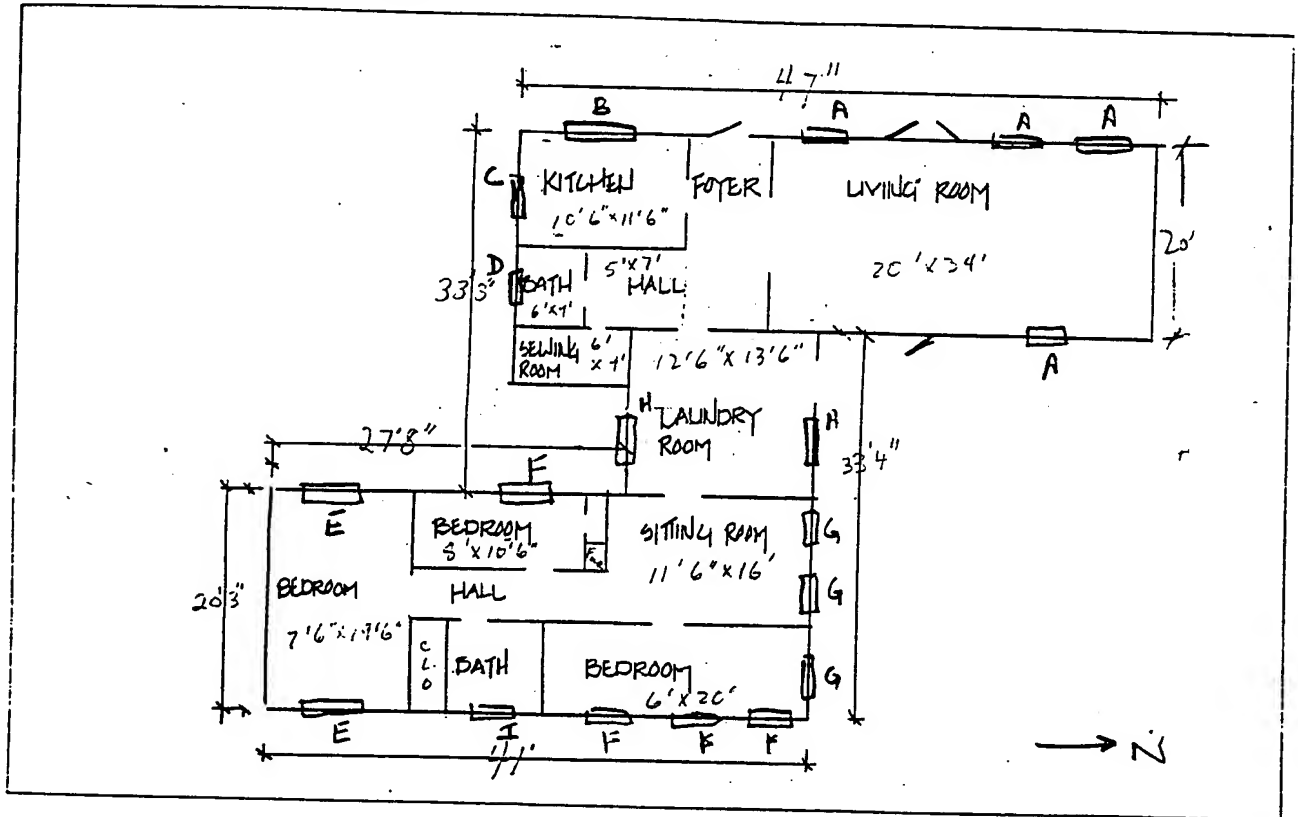
CRAWL SPACE: VENTILATED ☒ EXHAUSTED ☐ NO SKIRTING

ATTIC: VENTILATED ☒ EXHAUSTED ☐

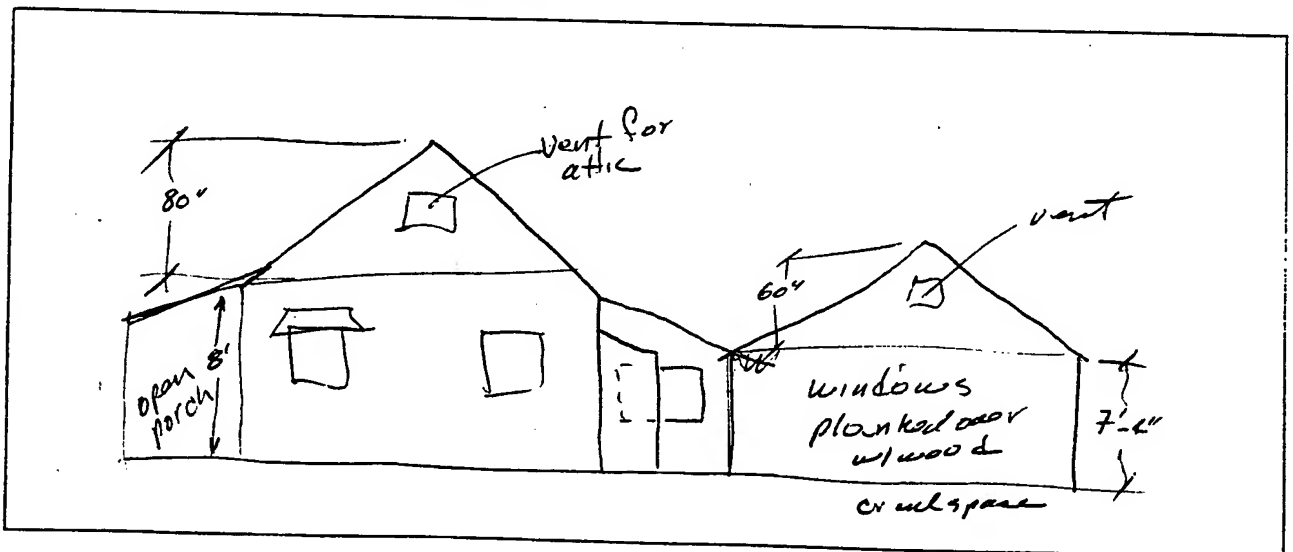
2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

LOCATION FHL  
BLDG. NO. 124

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



BUILDING FLOOR PLAN AND ELEVATION SKETCHES

## 2.3

LOCATION FHL  
BLDG. NO. T-124

[illegible]

	TOTAL AREA	U-VALUE
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**LEGEND:**

*GLAZING:	**FRAME:	***SHADING:	****VISIBILITY:	*****WINDOW TYPES:
1 - ORDINARY	W - WOOD	A - SOLAR FILM	E - AWNING	1 - DOUBLE HUNG
2 - L" PLATE	M - METAL	B - VEN BLIND	F - SOLAR SCREEN	2 - SINGLE HUNG
3 - HEAT ABSORBING	T - METAL/THERMAL BREAK	C - STORM WINDOW	G - OVERHANG	3 - SLIDING
4 - TINTED		D - DRAPES	OTHER - SPECIFY	4 - CASEMENT
				5 - LOWERED
				6 - FIXED GLASS

## 2.4 BUILDING ENVELOPE

LOCATION

FHL

BLDG. NO.

T-124

## CONSTRUCTION

WALL

ALL

COLOR: D

☐

M

☐

L

☒

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
WOOD SIDING		
BATT INSUL.	3"	
GYP BOARD		
INSIDE FILM		
TOTAL		
U-FACTOR		AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		
U-FACTOR		AREA

BUILDING SKIRTING MATERIAL

ROOF (INCL. CLG.)

TYPE: F

☐

P

☒

COLOR: D

☒

M

☐

L

☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
COMP SIDING		
WOOD SIDING		
AIRSPACE		
GYP BOARD		
INSIDE FILM		
TOTAL		
U-FACTOR		AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		
U-FACTOR		AREA

BUILDING ENVELOPE

2.4

# 3.1 HEATING EQUIPMENT

LOCATION FHL  
BLDG. NO. 124

Heat Source:

☒ Furnace ☐ Steam Boiler ☐ Hot Water Boiler ☐ Heat Pump ☐ Supplied Steam or Hot Water (External Boiler Plant) ☐ Other \_\_\_\_\_

Capacity: ± 80 MBtu/Hr or \_\_\_\_\_ Boiler HP or \_\_\_\_\_ Lbs/Hr Steam or \_\_\_\_\_ GPM Hot Water

Manufacturer: \_\_\_\_\_ Model No.: \_\_\_\_\_

Boiler/Furnace Control: ☐ Manual ☐ Time Clock ☐ Demand ☐ EMCS ☐ O<sub>2</sub> Trim

Operating Temperature: \_\_\_\_\_ °F Operating Pressure: \_\_\_\_\_ PSI

Fuel: ☐ Nat. Gas Only ☐ Nat. Gas/ \_\_\_\_\_ Draft: ☐ Forced ☒ Induced  
☒ Other (Specify) PROPANE

Burner: Mfg. \_\_\_\_\_ Model No. \_\_\_\_\_ Metering Equipment: ☐ Yes ☐ No

Operating Schedule: Weekdays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

Weekdays & Holidays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

Operating Season: From \_\_\_\_\_ Mon/Day, to \_\_\_\_\_ Mon/Day

Flue Gas Temperature: \_\_\_\_\_ °F Receiver Tank Conditions: \_\_\_\_\_ PSIG \_\_\_\_\_ °F

If supplied Steam or Hot Water: Steam Pressure \_\_\_\_\_ PSI Hot Water Supply Temp. \_\_\_\_\_ °F Hot Water Return Temp. \_\_\_\_\_ °F

Insulation: (1) Boiler (2) Other (Specify) \_\_\_\_\_  
Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup> Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>  
None ☐ Temp. \_\_\_\_\_ °F None ☐ Temp. \_\_\_\_\_ °F

Pump: No. of Pumps \_\_\_\_\_ V/PH/FLA \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_ RPM \_\_\_\_\_

HW Pump Starter: ☐ HOA ☐ Reset P/B ☐ S/S Push Button Interlocked with Boiler? ☐ Yes ☐ No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. \_\_\_\_\_ Model \_\_\_\_\_

Condensate Pumps/Hot Water Pumps: Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_

Boiler/Furnace Condition: \_\_\_\_\_

Describe \_\_\_\_\_

Occupant Discomfort (Evaluate): \_\_\_\_\_

HEATING EQUIPMENT

3.2 COOLING EQUIPMENTLOCATION FHL  
BLDG. NO. 124COMPRESSOR(S)/CHILLERSPLIT SYSTEMManufacturer CARRIERModel No. 38EA030340

Size \_\_\_\_\_

Refrigerant R-22

Motor HP (if available) \_\_\_\_\_

Motor Voltage 208V/1 $\phi$ Motor FLA 15.1Measured Amps 11A@230VCONDENSER/CONDENSING UNIT

Water Cooled \_\_\_\_\_

Air Cooled ☒

Evaporative \_\_\_\_\_

Manufacturer \_\_\_\_\_

Model No. \_\_\_\_\_

Size \_\_\_\_\_

Type of Fan \_\_\_\_\_

Fan Motor HP 1/8 HPFan Motor Voltage 208V/1 $\phi$ Fan Motor FLA .90

Measured Amps \_\_\_\_\_

COOLING TOWER

Gravity \_\_\_\_\_

Mech. Draft \_\_\_\_\_

Manufacturer \_\_\_\_\_

Model No. \_\_\_\_\_

Type of Fan \_\_\_\_\_

Fan RPM \_\_\_\_\_

Fan Motor HP \_\_\_\_\_

Fan Motor Voltage \_\_\_\_\_

Fan Motor FLA \_\_\_\_\_

Measured Amps \_\_\_\_\_

CHILLED WATER PUMPS (If more than one, how many  
operative during normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_

Model No. \_\_\_\_\_

Capacity Gals. \_\_\_\_\_

Head, Ft. \_\_\_\_\_

Motor HP \_\_\_\_\_

Motor Voltage \_\_\_\_\_

Motor FLA \_\_\_\_\_

Measured Amps \_\_\_\_\_

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_

Model No. \_\_\_\_\_

Capacity, Gals. \_\_\_\_\_

Head, Ft. \_\_\_\_\_

Motor HP \_\_\_\_\_

Motor Voltage \_\_\_\_\_

Motor FLA \_\_\_\_\_

Measured Amps \_\_\_\_\_

REMARKS: EVAPORATOR COIL IN PROPANE FURNACECOOLING EQUIPMENT



### 3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

LOCATION FAL  
BLDG. NO. 124

- a. Is System Supported from (check one): ☐ Central Plant ☒ One System per Building  
☐ Several Small Systems per Building

b. Domestic Hot Water Temperatures provided: \_\_\_\_\_ °F \_\_\_\_\_ °F

c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

d. Is Piping System Insulated and Condition: \_\_\_\_\_

e. Is Hot Water Circulated? \_\_\_\_\_

- 1) Condition of circulator \_\_\_\_\_ 3) Is aquastat provided? \_\_\_\_\_  
2) Circulator capacity \_\_\_\_\_ 4) Aquastat temperature setting \_\_\_\_\_

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

a. Location	_____	_____	_____
b. Areas Served	<u>ALL</u>	_____	_____
c. Manufacturer and Model	<u>DAYTON 3E3112</u>	_____	_____
d. Energy (Oil, Gas, Electric, Coal, Etc.)	<u>PROPANE</u>	_____	_____
e. Type Heaters & Quantities:			
1) Storage	<u>40 GAL</u>	_____	_____
2) Instantaneous	_____	_____	_____
3) Semi-Instantaneous	_____	_____	_____
f. Heater Size and Storage Capacity	_____	_____	_____
g. Heating Capacity	<u>34 MBH</u>	_____	_____
h. Type Controls (Air, Steam, Electric)	_____	_____	_____
i. When Installed & Condition	_____	_____	_____
j. Heater Temperature Setting	_____	_____	_____
k. Average Water Maintained Temperature	<u>160°F</u>	_____	_____
l. Temperature Differential (j) - (k)	_____	_____	_____
m. Is Hot Water Supply Adequate:	_____	_____	_____
n. Insulation Thickness	_____	_____	_____
o. Insulation Material	_____	_____	_____

DOMESTIC HOT WATER SYSTEM/EQUIPMENT



## 2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHL SURVEYED BY BH/RJB DATE 29SEP92  
 BUILDING NUMBER T-127 FUNCTION/USE BOQ  
 INFORMATION SOURCE (DWG. NO./PERSON) Inspection

### GENERAL BUILDING DATA

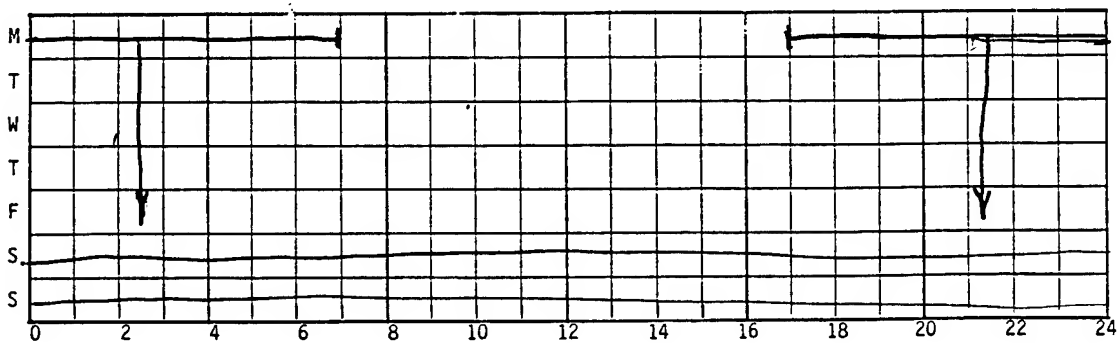
BUILDING AGE: NA YEARS

DUPLICATE BUILDING NOS: \_\_\_\_\_  
 TOTAL: \_\_\_\_\_

SIMILAR BUILDING NOS: \_\_\_\_\_  
 TOTAL: \_\_\_\_\_

BUILDING OCCUPANCY: 10 PM CONTINUOUS (24 HRS/DAY) ☐ NO. OF OCCUPANTS 11

Indicate (number and) duration of occupants each day



MISCELLANEOUS EQUIPMENT: Washer & Dryer (colceatria) Domestic Size.  
Washer has hot water connection  
Water cooler.

ADDITIONAL COMMENTS, CRITICAL LOADS: \_\_\_\_\_

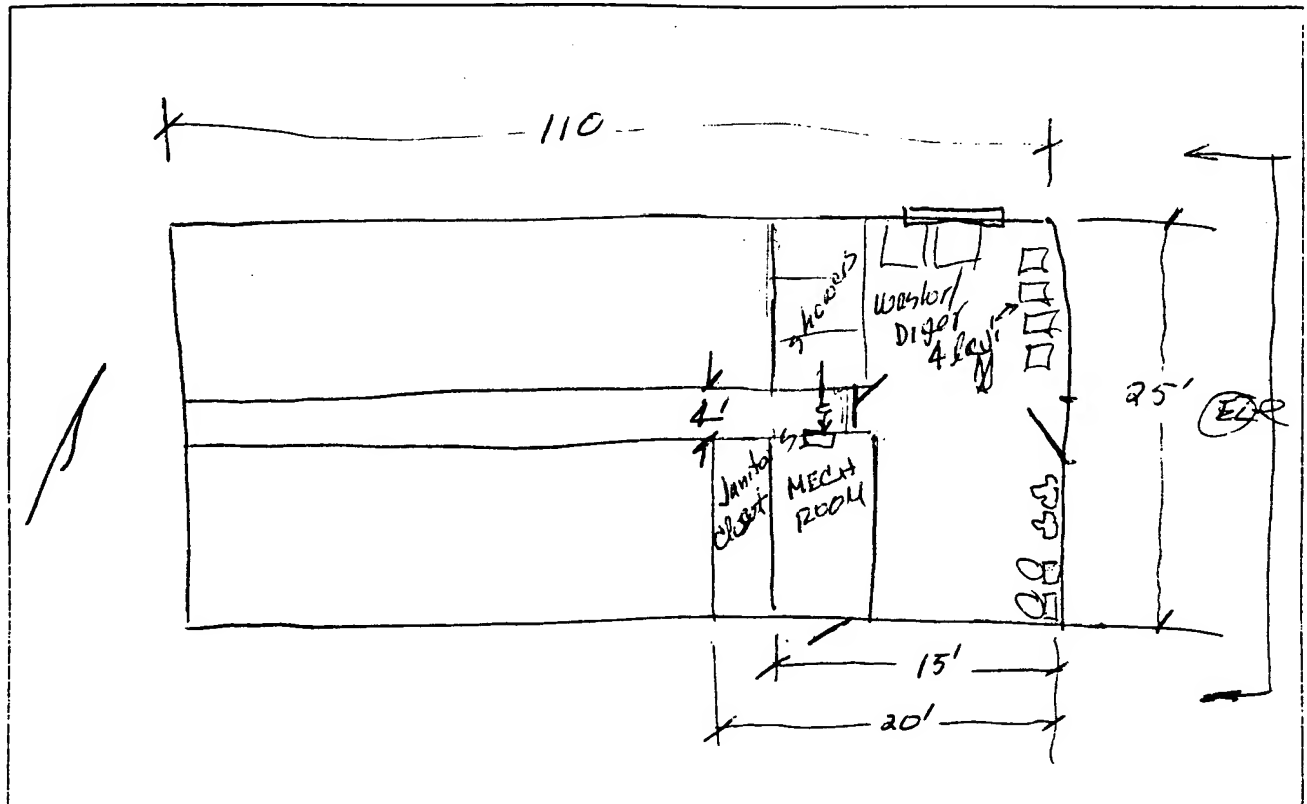
CRAWL SPACE: VENTILATED ☐ EXHAUSTED ☐ NONE - SOG

ATTIC: VENTILATED ☒ EXHAUSTED ☐

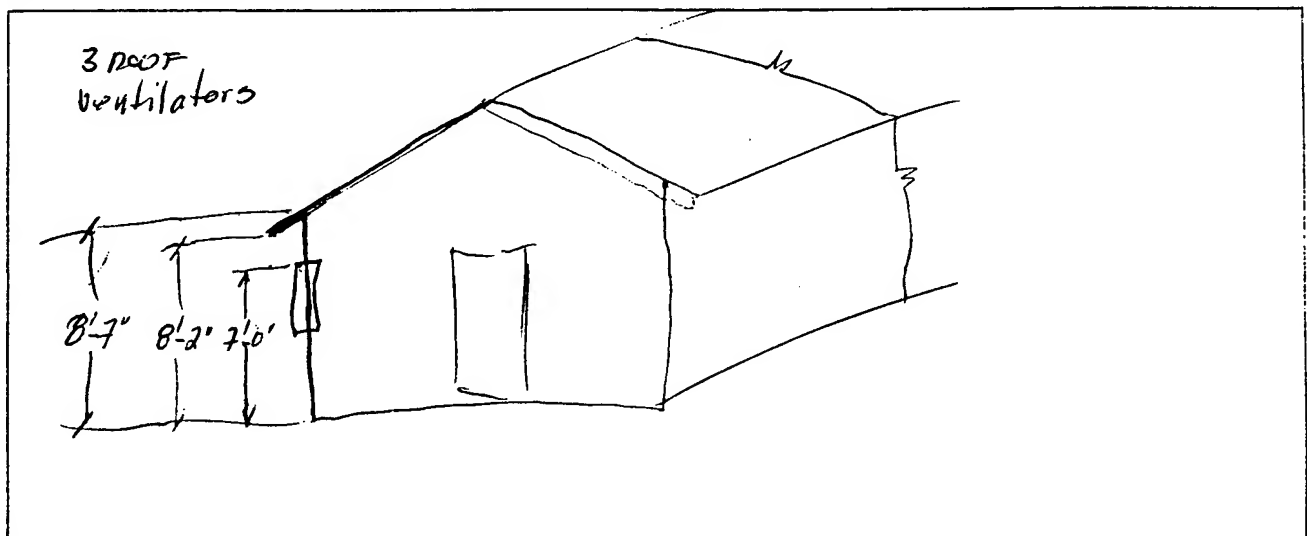
ARCHITECTURE--MISCELLANEOUS

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



BUILDING FLOOR PLAN AND  
ELEVATION SKETCHES

## 2.3

BLDG. NO. 127

	TOTAL AREA	U-VALUE
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WINDOW TYPES:	
1 - DOUBLE HUNG	4 - CASEMENT
2 - SINGLE HUNG	5 - LOUVERED
3 - SLIDING	6 - FIXED GLASS

**\*\*\*VISIBILITY:**

\*\*\*SHADING:

**\*\*FRAME:**

**\*CLAZING:**

1 - ORDINARY  
2 - 1" PLATE  
3 - HEAT ABSORBING  
4 - TINTED

W - WOOD  
M - METAL  
T - METAL/THERMAL BREAK

A - SOLAR FILM  
B - VEN BLIND  
C - STORM WINDOW  
D - DRAPES

\*\*\*VISIBILITY:\*\*\*  
 E - AWNING  
 F - SOLAR SCREEN  
 G - OVERHANG  
 OTHER - SPECIFY

WINDOW TYPES:	
1 - DOUBLE HUNG	4 - CASEMENT
2 - SINGLE HUNG	5 - LOUVERED
3 - SLIDING	6 - FIXED GLASS

## 2.3

# 2.4 BUILDING ENVELOPE

LOCATION FH  
BLDG. NO. 127

## CONSTRUCTION

WALL SEE SKETCH COLOR: D ☐ M ☐ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

FLOOR SDG carpeting

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

BUILDING SKIRTING MATERIAL

ROOF (INCL. CLG.) SEE SKETCH TYPE: F ☐ P ☐  
COLOR: D ☐ M ☐ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

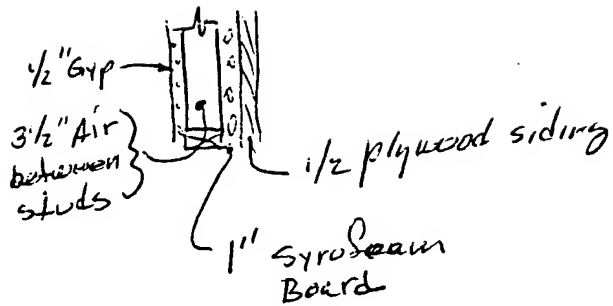
DOOR Wood 1 5/8" SOLID CORE

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

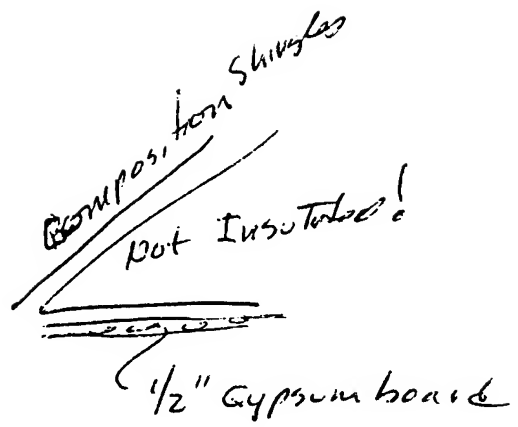
U-FACTOR  AREA

F#2

BLOG No. 127



WALL



ROOF

LOCATION FHC  
BLDG. NO. 137

3.1 HEATING EQUIPMENT

Heat Source:

☒ Furnace ☐ Steam Boiler ☐ Hot Water Boiler ☐ Heat Pump ☐ Supplied Steam or Hot Water (External Boiler Plant) ☐ Other —

Capacity: 112,500 Btu/Hr or — Boiler HP or — Lbs/Hr Steam or — GPM Hot Water

Manufacturer: 90,000 Btu/Hr Bonnet KRESKY, Petaluma Model No.: 115 FAF

Boiler/Furnace Control: ☐ Manual ☐ Time Clock ☒ Demand ☐ EMCS ☐ O<sub>2</sub> Trim

Operating Temperature: 120/100 °F Operating Pressure: NA PSI

Fuel: ☐ Nat. Gas Only ☐ Nat. Gas/ — Draft: ☐ Forced ☒ Induced  
☒ Other (Specify) PROPANE

Burner: Mfg. SAHE Model No. — Metering Equipment: ☐ Yes ☒ No

Fan ~ 3/4HP (NO HOMEPLATE)  
Operating Schedule: Weekdays: From — To — Hr/Day

Continuous, Weekdays & Holidays: From — To — Hr/Day  
Burner found Operating Season: From — Mon/Day, to — Mon/Day  
on with pilot lit.

Flue Gas Temperature: — °F Receiver Tank Conditions: — PSIG — °F

If supplied Steam or Hot Water: Steam Pressure — PSI Hot Water Supply Temp. — °F Hot Water Return Temp. — °F

Insulation: (1) Boiler NONE (2) Other (Specify) —  
Poor ☐ Area — FT<sup>2</sup> Poor ☐ Area — FT<sup>2</sup>  
None ☐ Temp. — °F None ☐ Temp. — °F

Pump: No. of Pumps NA V/PH/FLA — / — / —  
Mfg. — Model — HP — RPM —  
HW Pump Starter: ☐ HOA ☐ Reset P/B ☐ S/S Push Button Interlocked with Boiler? ☐ Yes ☐ No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. — Model —

Condensate Pumps/Hot Water Pumps: Mfg. — Model — HP —

Boiler/Furnace Condition: —

Describe —

Occupant Discomfort (Evaluate): No complaints

HEATING EQUIPMENT



### 3.2 COOLING EQUIPMENT

LOCATION FH4  
BLDG. NO. 137

#### COMPRESSOR(S)/CHILLER

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Size \_\_\_\_\_  
Refrigerant \_\_\_\_\_  
Motor HP (if available) \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

#### CONDENSER/CONDENSING UNIT

Water Cooled \_\_\_\_\_  
Air Cooled \_\_\_\_\_  
Evaporative \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Size \_\_\_\_\_  
Type of Fan \_\_\_\_\_  
Fan Motor HP \_\_\_\_\_  
Fan Motor Voltage \_\_\_\_\_  
Fan Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

#### COOLING TOWER

Gravity \_\_\_\_\_  
Mech. Draft \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Type of Fan \_\_\_\_\_  
Fan RPM \_\_\_\_\_  
Fan Motor HP \_\_\_\_\_  
Fan Motor Voltage \_\_\_\_\_  
Fan Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

#### CHILLED WATER PUMPS (If more than one, how many operative during normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

#### CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity, Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

REMARKS: EVAP COOLER ON ROOF; NO ACCESS

CABINET SIZE: 4' x 4' x 4' approx

LOAD 106V @ 10.9 Amps, 1 $\phi$  60Hz.

Servus

COOLING EQUIPMENT

### 3.3 AIR HANDLING EQUIPMENT

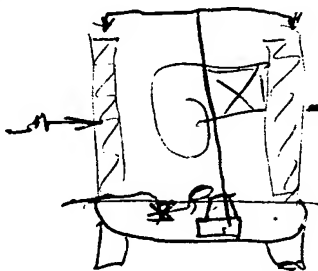
LOCATION FHL  
BLDG. NO. 127

#### FANS

Type	<u>EVAP COOLER</u>			
Unit/Zone	#	#	#	#
Manufacturer	<u>See</u>			
Model No.	<u>previous</u>			
Type	<u>sheet</u>			
RPM of Fan				
Motor HP				
Motor Volts				
Motor FLA				
Measured Amps				
CFM (from Plans)				
Notes				

#### COILS

Indicate capacities where found:



COOLING	HUMIDIFICATION
DX	ELEC
H <sub>2</sub> O	STEAM
OTHER	H <sub>2</sub> O
	OTHER
HEATING	AUX/MISC OTHER
GAS	
H <sub>2</sub> O	
ELEC	
OTHER	

#### FILTERS

Type			
Condition			
Manometer Reading 1/			

1/ Record only if manometer is installed on the unit.

### 3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

LOCATION FHL  
BLOG. NO. 137

- a. Is System Supported from (check one): ☐ Central Plant ☒ One System per Building  
☐ Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: \_\_\_\_\_ °F \_\_\_\_\_ °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:  
1" supply & outlet from DWHT
- d. Is Piping System Insulated and Condition: No Insulation
- e. Is Hot Water Circulated? No
- 1) Condition of circulator \_\_\_\_\_ 3) Is aquastat provided? \_\_\_\_\_  
2) Circulator capacity \_\_\_\_\_ 4) Aquastat temperature setting \_\_\_\_\_

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- a. Location Mechanical Room
- b. Areas Served Entire Bldg
- c. Manufacturer and Model American Appliance Co. JSD370-100LR
- d. Energy (Oil, Gas, Electric, Coal, Etc.) PROBABLE
- e. Type Heaters & Quantities:
- 1) Storage 100 GAL
- 2) Instantaneous -
- 3) Semi-Instantaneous -
- f. Heater Size and Storage Capacity 100 GAL
- g. Heating Capacity 240 MBH In 201.6 MBTCH Now 157g
- h. Type Controls (Air, Steam, Electric) Elec. Controls
- i. When Installed & Condition NA / Good Cond.
- j. Heater Temperature Setting 140°F
- k. Average Water Maintained Temperature 128°F
- l. Temperature Differential (j) - (k) 128° - 76°F
- m. Is Hot Water Supply Adequate: yes
- n. Insulation Thickness none specified
- o. Insulation Material NA

80  
OA Temp at supply 92°F

DOMESTIC HOT WATER SYSTEM/EQUIPMENT

LOCATION FHL  
BLDG. NO. 127

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

CONTROL SYSTEM:

CONTROLLERS: ☐ ELECTRIC ☐ PNEUMATIC  
☐ ELECTRONIC

OPERATION: ☒ Cooling ☐ TIME CLOCK  
☐ MANUAL ☐ CONTINUOUS ☐ EMCS  
☒ DEMAND Heating & DHW

MFG \_\_\_\_\_ MODEL \_\_\_\_\_ LOCATION \_\_\_\_\_

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

Boiler good  
Furnace average - old & has pilot.  
EVAP CLK. average.

All lavs have aspirators, no leaks found.  
Showers 3 each, standard, non low-flow

## 3.6 SPECIAL EQUIPMENT

LOCATION FHL  
BLDG. NO. 127

IDENTIFICATION NO.	LOCATION (ROOM)	DESCRIPTION (MANUFACTURER, MODEL NO.)	CONNECTED LOAD KW	REMARKS
CLOTHES WASHER	BATH			} Domestic
— " — DRYER	BATH			
WATER COOLER	HALL			Standard
<u>EACH ROOM</u>				
MICROWAVE	BACH RH	Small ~ <del>150</del>	0.75	
REFRIGERATOR	— " —	14 CF size.		

SPECIAL EQUIPMENT

4.2 Lighting  
4.2.1 Interior Lighting

FHL  
127

LIGHTING LOCATION BLDG.

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/ DAY ON	DAYS/ YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT <sup>2</sup> )	WATTS PER SQ. FT.	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS	FINISH	WINDOW CODE	REMARKS (LIGHTS/SWITCH)
Mech	S	I 60	1/60	1	60							8'-0"	DD	FF	NA	1 SW / Light
Recessed	S	I 100	1/100	1	100								MM	FF	S	Manual
Desk	Desk	I 60	1/60	1	60										S	
(11)																
8	S	I 100	1/100	2	200											
	W	I 60	1/60	2	120											Manual
E	S	I 60	1/60	3	180											Manual
1	S	I 60	1/60	3	180											2. Longmont
TOTAL BUILDING LIGHTING ENERGY																

LIGHTING LEGEND:

- Fixture Types: Recessed = R, Suspended = S, Ventilated = V, Pole Mounted = PM, Other--Describe
- Lamp Types: Incandescent = I, Fluorescent = F, Sodium Vapor = SV, Mercury Vapor = MV, Metal Halide = MH, Other--Describe
- Window Code: If there are windows, indicate: Curtains = C, Shades = S, No Shading = NS
- Tasks Code: 1 = Corridors, 2 = Kitchens, 3 = Dining, 4 = Offices-general, 5 = Offices-bookkeeping (ledgers only), 6 = Offices-drafting, 7 = Laundry, 8 = Toilets, 9 = Sleeping quarters, 10 = Supply rooms, 11 = Repair shops, 12 = Storage room, 13 = Retail store (PX, commissary), Other (describe on audit form), E = Exterior

LOCATION FHL  
BLDG. NO. 127

#### 4.3 POWER USAGE SURVEY

##### 4.3.1 CRITICAL LOAD (Computer, Communications)

Describe: No computers - see misc equip.  
list

4.3.2 RECEPTACLES IN USE \_\_\_\_\_ PERCENT

##### 4.3.3 SMALL APPLIANCES IN USE (ENTER COUNT)

Water Cooler	<u>1</u>
Vending Machine	<u>-</u>
Space Heater	<u>-</u>
Coffee Pot	<u>-</u>
TV	<u>11</u>
XEROX	<u>          </u>

Other:

<u>Refrigerators</u>	<u>11</u>
<u>Microwaves</u>	<u>11</u>
<u>Misc Fridge etc</u>	<u>-</u>
<u>                    </u>	<u>          </u>

LOCATION FHC SURVEYED BY PJB/BIH DATE 12/14  
BUILDING NUMBER 128 FUNCTION/USE BOQ  
INFORMATION SOURCE (DWG. NO./PERSON) VISION / AS-BUILT DWGS

BUILDING AGE: 20+ YEARS

DUPLICATE BUILDING NOS: \_\_\_\_\_

TOTAL:

SIMILAR BUILDING NOS: \_\_\_\_\_

TOTAL:

NO. OF OCCUPANTS 80

MISCELLANEOUS EQUIPMENT: \_\_\_\_\_

ADDITIONAL COMMENTS, CRITICAL LOADS: \_\_\_\_\_

CRAWL SPACE: VENTILATED ☒ EXHAUSTED ☐

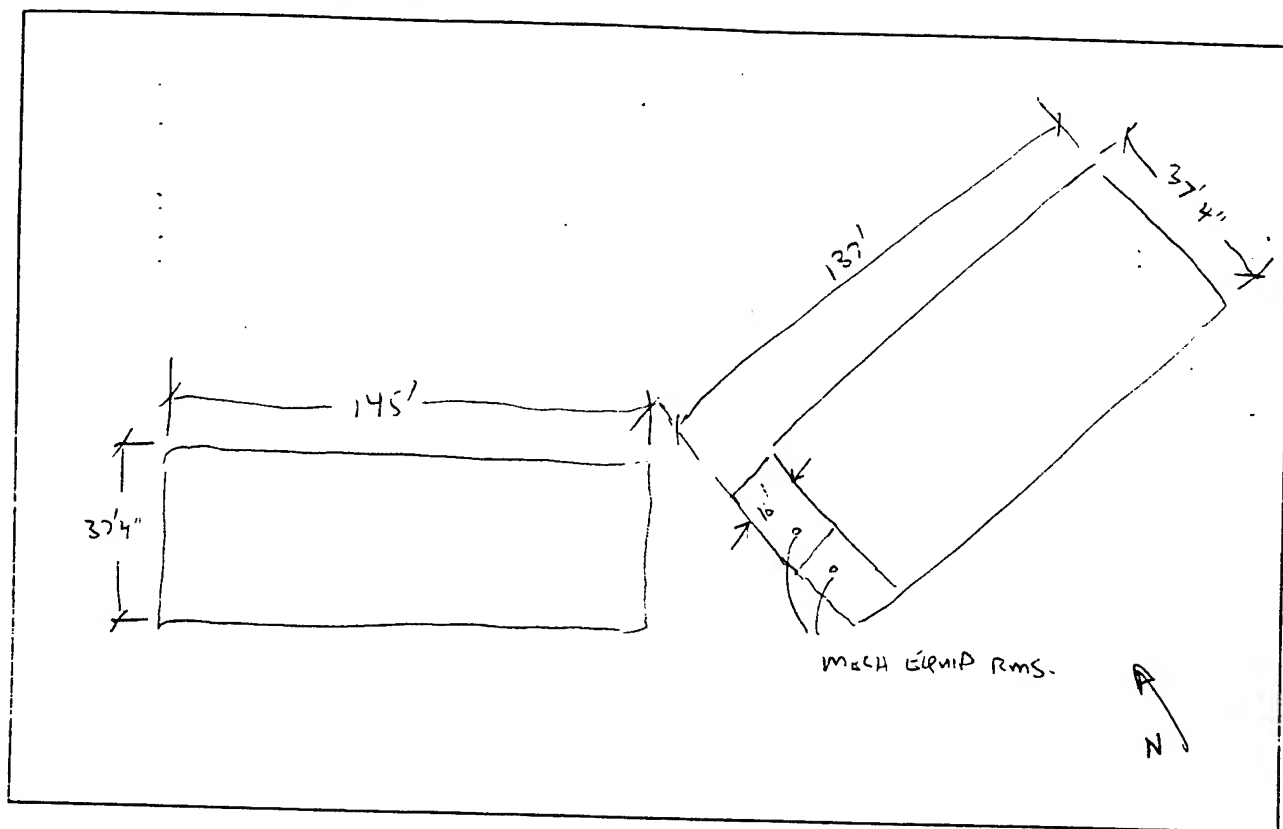
ATTIC: VENTILATED ☐ EXHAUSTED ☐



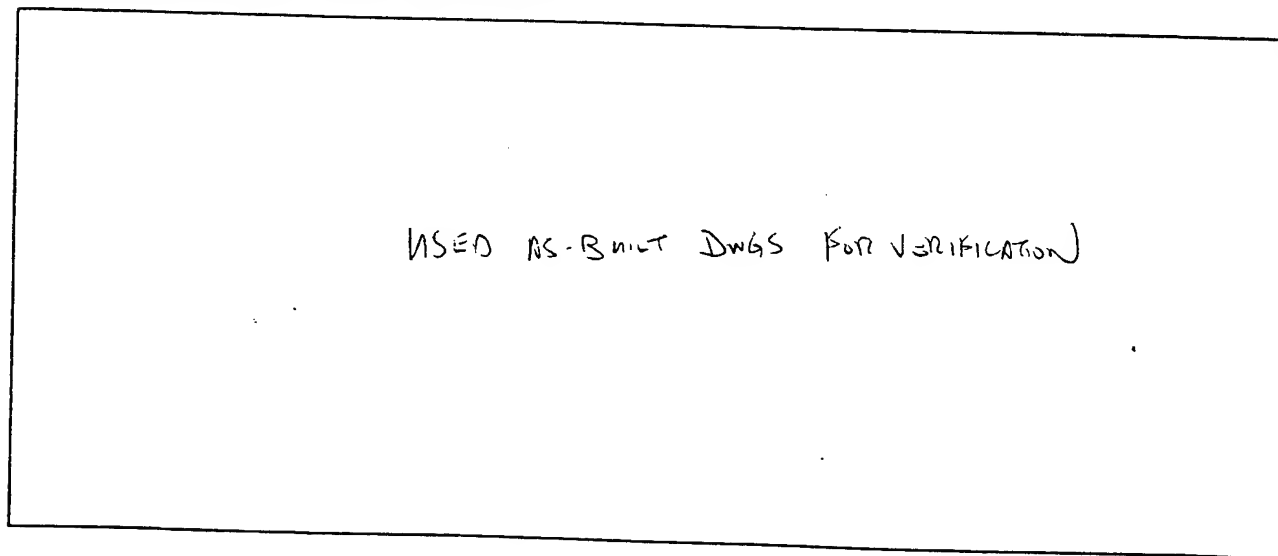
2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

LOCATION FAL  
BLDG. NO. 128

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



BUILDING FLOOR PLAN AND  
ELEVATION SKETCHES

[illegible]

	TOTAL AREA	U-VALUE
1		
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LEGEND:

*GLAZING:	**FRAME:	**SHADING:	***VISIBILITY:	WINDOW TYPES:
1 - ORDINARY	W - WOOD	A - SOLAR FILM	E - AWNING	1 - DOUBLE HUNG
2 - 1/2" PLATE	M - METAL	B - VEN BLIND	F - SOLAR SCREEN	2 - SINGLE HUNG
3 - HEAT ABSORBING	T - METAL/THERMAL BREAK	C - STORM WINDOW	G - OVERHANG	3 - SLIDING
4 - TINTED		D - DRAPES	OTHER - SPECIFY	4 - CASEMENT
				5 - LOUVERED
				6 - FIXED GLASS

## 2.4 BUILDING ENVELOPE

LOCATION KITL  
BLDG. NO. 128

## CONSTRUCTION

WALL Frame COLOR: D ☐ M ☐ L ☒

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.25
STUCCO		0.39
PLYWOOD	3/8"	0.47
BATT INS	3"	11.00
GYPSBOARD	5/8"	0.56
INSIDE FILM		0.68
TOTAL		13.35

U-FACTOR 0.075 AREA WALL  
FLOOR CONCRETE - 8" S

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.25
CMU	8"	1.11
GYPSBOARD	5/8"	0.56
INSIDE FILM		0.68
TOTAL		2.6

U-FACTOR 0.38 AREA BUILDING SKIRTING MATERIAL ROOF (INCL. CLG.) TYPE: F ☐ P ☐  
COLOR: D ☐ M ☒ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		6.17
BUILT UP ROOF		0.33
PLYWOOD	1/2"	0.62
AIR SPACE		0.61
BATT INS	3"	11.00
GYPSBOARD	5/8"	0.56
INSIDE FILM		0.61
TOTAL		13.9

U-FACTOR 0.07 AREA DOOR 

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA 

BUILDING ENVELOPE

2.4

# 3.1 HEATING EQUIPMENT

LOCATION FIN  
BLDG. NO. 128

128

Heat Source:

☐ Furnace ☐ Steam Boiler ☒ Hot Water Boiler ☐ Heat Pump ☐ Supplied Steam or Hot Water (External Boiler Plant) ☐ Other \_\_\_\_\_

Capacity: 453.6 MBtu/Hr or \_\_\_\_\_ Boiler HP or \_\_\_\_\_ Lbs/Hr Steam or \_\_\_\_\_ GPM Hot Water

Manufacturer: CRAVE Model No.: 8-300

Boiler/Furnace Control: ☐ Manual ☐ Time Clock ☐ Demand ☐ EMCS ☐ O<sub>2</sub> Trim

Operating Temperature: 200° °F Operating Pressure: 18 PSI

Fuel: ☐ Nat. Gas Only ☐ Nat. Gas/ \_\_\_\_\_ Draft: ☐ Forced ☒ Induced  
☒ Other (Specify) PROPANE

Burner: Mfg. \_\_\_\_\_ Model No. \_\_\_\_\_ Metering Equipment: ☐ Yes ☐ No

Operating Schedule: Weekdays: From \_\_\_\_\_ To 24 Hr Hr/Day \_\_\_\_\_

Weekdays & Holidays: From \_\_\_\_\_ To 24 Hr Hr/Day \_\_\_\_\_

Operating Season: From \_\_\_\_\_ Mon/Day, to \_\_\_\_\_ Mon/Day

Flue Gas Temperature: \_\_\_\_\_ °F Receiver Tank Conditions: \_\_\_\_\_ PSIG \_\_\_\_\_ °F

If supplied Steam or Hot Water: Steam Pressure \_\_\_\_\_ PSI Hot Water Supply Temp. \_\_\_\_\_ °F Hot Water Return Temp. \_\_\_\_\_ °F

Insulation: (1) Boiler (2) Other (Specify) PIPES

Poor ☒ Area \_\_\_\_\_ FT<sup>2</sup> Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>  
None ☐ Temp. \_\_\_\_\_ °F None ☐ Temp. \_\_\_\_\_ °F

Pump: No. of Pumps 1 V/PH/FLA 208 / 3 / 5

Mfg. IAKO Model 10-12105-700061A01-1 HP 1 1/2 RPM 1725

HW Pump Starter: ☐ HOA ☐ Reset P/B ☐ S/S Push Button Interlocked with Boiler? ☒ Yes ☐ No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. \_\_\_\_\_ Model \_\_\_\_\_

Condensate Pumps/Hot Water Pumps: Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_

Boiler/Furnace Condition: \_\_\_\_\_

Describe \_\_\_\_\_

Occupant Discomfort (Evaluate): \_\_\_\_\_

HEATING EQUIPMENT

3.1

PUMP  
measured

6.5A 450V  
7.1A 208V  
7.1A

83 GPM

30 TDH

7.1" Impeller

NA

### 3.2 COOLING EQUIPMENT

LOCATION FHL  
BLDG. NO. 128

#### COMPRESSOR(S)/CHILLER

Manufacturer TRANE CHILLER  
Model No. CGAC 25B  
Size \_\_\_\_\_  
Refrigerant \_\_\_\_\_  
Motor HP (if available) NA  
Motor Voltage 208V/3φ  
Motor FLA 88  
Measured Amps \_\_\_\_\_

#### CONDENSER/CONDENSING UNIT

Water Cooled \_\_\_\_\_  
Air Cooled ✓  
Evaporative \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Size \_\_\_\_\_  
Type of Fan \_\_\_\_\_  
Fan Motor HP 3 HP  
Fan Motor Voltage 208V/3φ  
Fan Motor FLA 8.6  
Measured Amps \_\_\_\_\_

#### COOLING TOWER

Gravity \_\_\_\_\_  
Mech. Draft \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Type of Fan \_\_\_\_\_  
Fan RPM \_\_\_\_\_  
Fan Motor HP \_\_\_\_\_  
Fan Motor Voltage \_\_\_\_\_  
Fan Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

#### CHILLED WATER PUMPS (If more than one, how many operative during normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

#### CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity, Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

REMARKS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

COOLING EQUIPMENT

### 3.3 AIR HANDLING EQUIPMENT

LOCATION FAL  
BLDG. NO. 128

#### FANS

	2-PIPE FAN-COIL UNIT	2-PIPE FAN-COIL UNIT		
Type				
Unit/Zone	# 45 UNITS	# 9 UNITS	#	#
Manufacturer				
Model No.				
Type				
RPM of Fan				
Motor HP	1/60	1/33		
Motor Volts				
Motor FLA				
Measured Amps				
CFM (from Plans)	200	300		
Notes				

#### COILS

Indicate capacities where found:

##### COOLING

DX \_\_\_\_\_  
H<sub>2</sub>O \_\_\_\_\_  
OTHER \_\_\_\_\_

##### HUMIDIFICATION

ELEC \_\_\_\_\_  
STEAM \_\_\_\_\_  
H<sub>2</sub>O \_\_\_\_\_  
OTHER \_\_\_\_\_

##### HEATING

GAS \_\_\_\_\_  
H<sub>2</sub>O \_\_\_\_\_  
ELEC \_\_\_\_\_  
OTHER \_\_\_\_\_

##### AUX/MISC OTHER

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

#### FILTERS

Type	_____	_____	_____
Condition	_____	_____	_____
Manometer Reading 1/	_____	_____	_____

1/ Record only if manometer is installed on the unit.

AIR HANDLING EQUIPMENT

# 3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

LOCATION FTH  
BLDG. NO. 120

128

a. Is System Supported from (check one):

☐

Central Plant

☒

One System per Building

☐

Several Small Systems per Building

b. Domestic Hot Water Temperatures provided:

140

°F

°F

c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:

1" 200 FT

d. Is Piping System Insulated and Condition:

MID

e. Is Hot Water Circulated?

YES

1) Condition of circulator

GOOD

3) Is aquastat provided?

NO

2) Circulator capacity

1 1/2 HP

4) Aquastat temperature setting

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

a. Location

MECH RM

b. Areas Served

ALL

c. Manufacturer and Model

FOURMOST

d. Energy (Oil, Gas, Electric, Coal, Etc.)

ELECTRIC

e. Type Heaters & Quantities:

1) Storage

-

2) Instantaneous

-

3) Semi-Instantaneous

-

f. Heater Size and Storage Capacity

246 GPH REC 100 GALS STOR

g. Heating Capacity

240 MBH INST

h. Type Controls (Air, Steam, Electric)

ELECTRIC

i. When Installed & Condition

MID

j. Heater Temperature Setting

140

k. Average Water Maintained Temperature

-

l. Temperature Differential (j) - (k)

-

m. Is Hot Water Supply Adequate:

YES

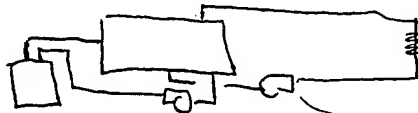
n. Insulation Thickness

-

Type

o. Insulation Material

GLOFSTON HEAT EXCHANGER



1 1/2" / 1/2 HP / 115 Y / 1725-RPM / 2.2A

DOMESTIC HOT WATER SYSTEM/EQUIPMENT

LOCATION FHL  
BLDG. NO. 128

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

CONTROL SYSTEM:

CONTROLLERS:

☐

ELECTRIC

☐

PNEUMATIC

☐

ELECTRONIC

OPERATION:

☐

MANUAL

☐

TIME CLOCK

☐

CONTINUOUS

☐

EMCS

☒

DEMAND

MFG

MODEL

LOCATION

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

FAN - COIL UNITS - MANUAL CONTROL, 3 SPEED FAN SWITCH

SUMMER-WINTER CHANGE OVER - MANUAL CONTROL OF TWO  
2 POSITION VALVES (BOTH VALVES IN OPEN POSITION)

CONTROL/MISCELLANEOUS PROCESS/SKETCHES



## LIGHTING

LOCATION

BLDG.

128

[illegible]

LIGHTING LEGEND:

**Fixture Types:**

Recessed = R  
Suspended = S  
Ventilated = V  
Pole Mounted = PM  
Other--Describe

**Lamp Types:**

Incandescent = I  
Fluorescent = F  
Sodium Vapor = SV  
Mercury Vapor = MV  
Metal Halide = MH  
Other--Describe

**Window Code:**

If there are windows, indicate:

Curtains = C  
Shades = S  
No Shading = NS

**Tasks Code:**

1 = Corridors	6 = Offices-drafting	12 = Storage room
2 = Kitchens	7 = Laundry	13 = Retail store
3 = Dining	8 = Toilets	(PX, commissary)
4 = Offices-general	9 = Sleeping quarters	Other (describe on
5 = Offices-bookkeeping	10 = Supply rooms	audit form)
(ledgers only)	11 = Repair shops	E = Exterior

LIGHTING  
4.2.1

LOCATION F12  
BLDG. NO. 128

4.2 LIGHTING (continued)

4.2.2 Exterior Lighting

ACTUAL NO. OF FIXTURES	TYPE OF FIXTURE	NO. OF FIXTURES IN USE	WATTS/ FIXTURE	TOTAL WATTS	CONTROL TYPE*	REMARKS
<u>28</u>	<u>inc</u>	<u>28</u>	<u>60</u>	<u>1680</u>		

\* M = Manual    T = Timer    P = Photocell    Enter schedule under Remarks.

CALCULATIONS

WATTS OF INTERIOR LIGHTING

Actual at time of survey \_\_\_\_\_

Total installed \_\_\_\_\_

WATTS OF EXTERIOR LIGHTING

Actual on at time of survey \_\_\_\_\_

Total installed \_\_\_\_\_

LIGHTING-EXTERIOR

LOCATION FHL SURVEYED BY BIH/RJB DATE OCT '93  
BUILDING NUMBER T131 FUNCTION/USE FAMILY HOUSING  
INFORMATION SOURCE (DWG. NO./PERSON) Survey

BUILDING AGE: \_\_\_\_\_ YEARS OLD -

DUPLICATE BUILDING NOS: \_\_\_\_\_

\_\_\_\_\_ TOTAL: \_\_\_\_\_

SIMILAR BUILDING NOS: \_\_\_\_\_

\_\_\_\_\_ TOTAL: \_\_\_\_\_

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) ☒ NO. OF OCCUPANTS 4  
Indicate (number and) duration of occupants each day

A blank grid for plotting data. The vertical axis is labeled with days of the week: M, T, W, T, F, S, S. The horizontal axis is labeled with numbers from 0 to 24 in increments of 2.

MISCELLANEOUS EQUIPMENT: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

ADDITIONAL COMMENTS, CRITICAL LOADS: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

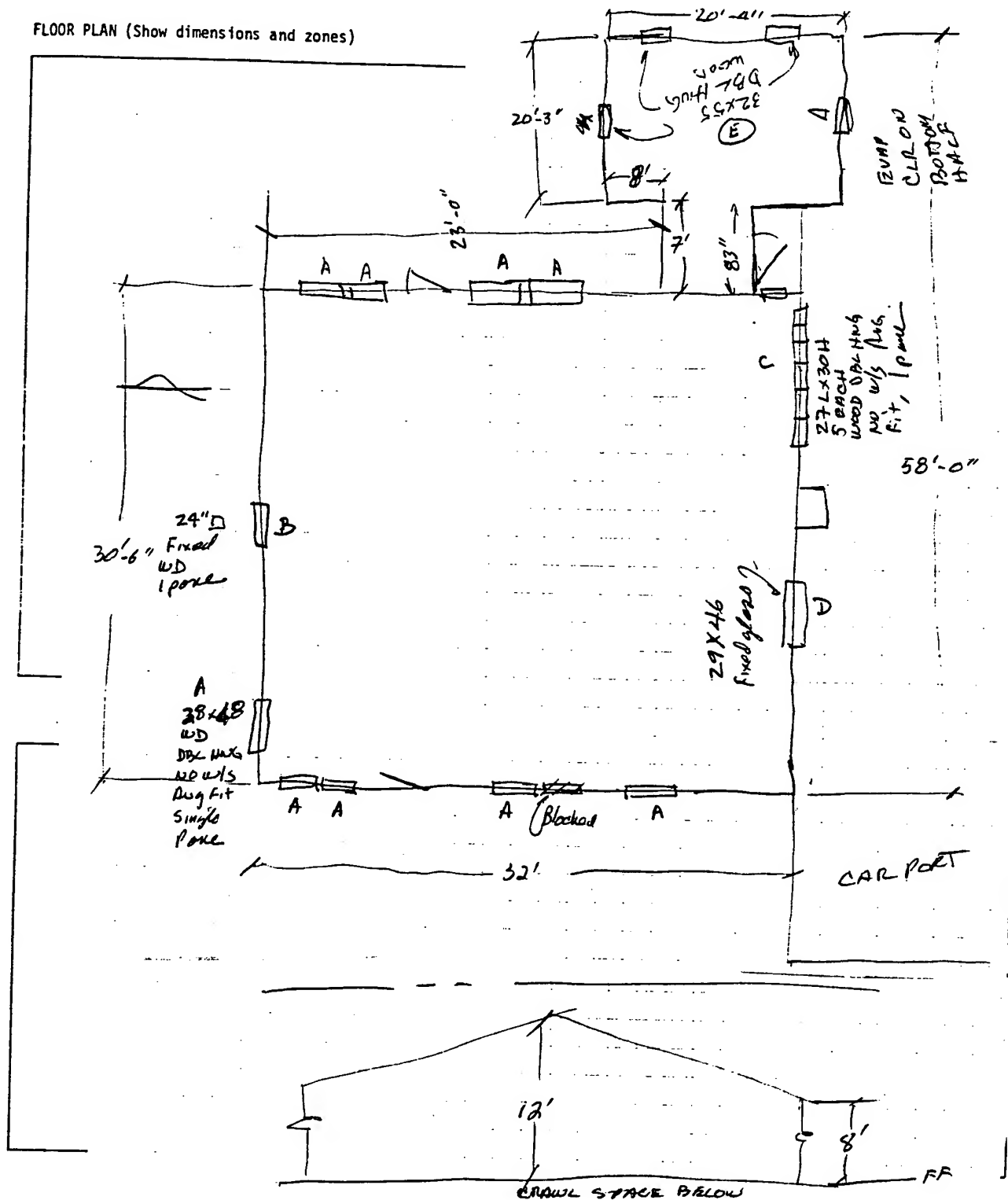
CRAWL SPACE: VENTILATED ☒ EXHAUSTED ☐

ATTIC: VENTILATED ☐ EXHAUSTED ☐

# 2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

LOCATION FHL  
BLDG. NO. 131

FLOOR PLAN (Show dimensions and zones)



BUILDING FLOOR PLAN AND ELEVATION SKETCHES

## 2.3

..KFL

13

	TOTAL AREA	U-VALUE
1		
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100		

**WINDOW TYPES:**

1 - DOUBLE HUNG	4 - CASEMENT
2 - SINGLE HUNG	5 - LOUVERED
3 - SLIDING	6 - FIXED GLASS

\*\*\*VISIBILITY:

E - AWNING  
F - SOLAR SCREEN  
G - OVERHANG  
H - OTHER - SPECIFY

\*\*\*SHADING:\*

**A - SOLAR FILM**  
**B - VEN BLIND**  
**C - STORM WINDOW**  
**D - DRAPES**

\*\*\*FRAME.

W - WOOD  
M - METAL  
T - METAL/THERMAL BREAK

ICI A31 NC.

\*GLAZING:

1	-	ORDINARY
2	-	1" PLATE
3	-	HEAT ABSORBING
4	-	TINTED

## 2.3

## 2.4 BUILDING ENVELOPE

LOCATION FHL  
BLDG. NO. 131

## CONSTRUCTION

WALL  COLOR: D ☐ M ☒ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
WOOD SIDING		
BATT INSULATION 3"		
GYPSBOARD		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA FLOOR 

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA BUILDING SKIRTING MATERIAL 

## ROOF (INCL. CLG.)

TYPE: F ☐ P ☒  
COLOR: D ☐ M ☒ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
COMP SINGLE		
SHUTTLING		
AIR SPACE		
GYPSBOARD		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA DOOR 

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

## 3.1 HEATING EQUIPMENT

LOCATION FAL  
BLDG. NO. 131

Heat Source:

☒ Furnace ☐ Steam Boiler ☐ Hot Water Boiler ☐ Heat Pump ☐ Supplied Steam or Hot Water (External Boiler Plant) ☐ Other \_\_\_\_\_Capacity: 90,000 Btu/Hr <sup>(EST)</sup> or \_\_\_\_\_ Boiler HP or \_\_\_\_\_ Lbs/Hr Steam or \_\_\_\_\_ GPM Hot WaterManufacturer: WIA Model No.: \_\_\_\_\_Boiler/Furnace Control: ☐ Manual ☐ Time Clock ☐ Demand ☐ EMCS ☐ O<sub>2</sub> Trim

Operating Temperature: \_\_\_\_\_ °F Operating Pressure: \_\_\_\_\_ PSI

Fuel: ☐ Nat. Gas Only ☐ Nat. Gas/\_\_\_\_\_  
☒ Other (Specify) PROPANEDraft: ☐ Forced  
☐ InducedBurner: Mfg. \_\_\_\_\_ Model No. \_\_\_\_\_ Metering Equipment: ☐ Yes ☐ No

Operating Schedule: Weekdays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day

Weekdays &amp; Holidays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day

Operating Season: From \_\_\_\_\_ Mon/Day, to \_\_\_\_\_ Mon/Day

Flue Gas Temperature: \_\_\_\_\_ °F Receiver Tank Conditions: \_\_\_\_\_ PSIG \_\_\_\_\_ °F

If supplied Steam or Hot Water: Steam Pressure \_\_\_\_\_ PSI Hot Water Supply Temp. \_\_\_\_\_ °F Hot Water Return Temp. \_\_\_\_\_ °F

Insulation: (1) Boiler

Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>  
None ☐ Temp. \_\_\_\_\_ °F

(2) Other (Specify) \_\_\_\_\_

Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>  
None ☐ Temp. \_\_\_\_\_ °F

Pump: No. of Pumps \_\_\_\_\_ V/PH/FLA \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_ RPM \_\_\_\_\_

HW Pump Starter: ☐ HOA ☐ Reset P/B ☐ S/S Push Button Interlocked with Boiler? ☐ Yes ☐ No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. \_\_\_\_\_ Model \_\_\_\_\_

Condensate Pumps/Hot Water Pumps: Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_

Boiler/Furnace Condition: \_\_\_\_\_

Describe \_\_\_\_\_

Occupant Discomfort (Evaluate): \_\_\_\_\_

HEATING EQUIPMENT

3.2 COOLING EQUIPMENTLOCATION FAL  
BLDG. NO. 131COMPRESSOR(S)/CHILLER

Manufacturer CARRIER SPLIT SYSTEM  
Model No. 38EF0303005M  
Size \_\_\_\_\_  
Refrigerant R-22  
Motor HP (if available) N/A  
Motor Voltage 208V/1φ  
Motor FLA 18  
Measured Amps \_\_\_\_\_

CONDENSER/CONDENSING UNIT

Water Cooled \_\_\_\_\_  
Air Cooled \_\_\_\_\_  
Evaporative \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Size \_\_\_\_\_  
Type of Fan \_\_\_\_\_  
Fan Motor HP \_\_\_\_\_  
Fan Motor Voltage 208V/1φ  
Fan Motor FLA 2.1  
Measured Amps \_\_\_\_\_

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity, Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

COOLING TOWER

Gravity \_\_\_\_\_  
Mech. Draft \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Type of Fan \_\_\_\_\_  
Fan RPM \_\_\_\_\_  
Fan Motor HP \_\_\_\_\_  
Fan Motor Voltage \_\_\_\_\_  
Fan Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

CHILLED WATER PUMPS (If more than one, how many operate during normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

REMARKS: \_\_\_\_\_

1/3 HP EVAP COOLERCOOLING EQUIPMENT



### 3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

LOCATION FHL  
BLDG. NO. 131

- a. Is System Supported from (check one): ☐ Central Plant ☒ One System per Building  
☐ Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: \_\_\_\_\_ °F \_\_\_\_\_ °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- d. Is Piping System Insulated and Condition: NO INSULATION
- e. Is Hot Water Circulated? \_\_\_\_\_  
1) Condition of circulator \_\_\_\_\_ 3) Is aquastat provided? \_\_\_\_\_  
2) Circulator capacity \_\_\_\_\_ 4) Aquastat temperature setting \_\_\_\_\_

#### DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- |  |                              |            |       |
|--|------------------------------|------------|-------|
| a. Location                                | _____                        | _____      | _____ |
| b. Areas Served                            | _____                        | _____      | _____ |
| c. Manufacturer and Model                  | <u>AMERICAN GUF433 LPG</u>   |            |       |
| d. Energy (Oil, Gas, Electric, Coal, Etc.) | <u>PROPANE</u>               |            |       |
| e. Type Heaters & Quantities:              |                              |            |       |
| 1) Storage                                 | <u>✓</u>                     | _____      | _____ |
| 2) Instantaneous                           | _____                        | _____      | _____ |
| 3) Semi-Instantaneous                      | _____                        | _____      | _____ |
| f. Heater Size and Storage Capacity        | <u>40 GAL.</u>               | _____      | _____ |
| g. Heating Capacity                        | <u>29 MBH</u>                | _____      | _____ |
| h. Type Controls (Air, Steam, Electric)    | _____                        | _____      | _____ |
| i. When Installed & Condition              | _____                        | _____      | _____ |
| j. Heater Temperature Setting              | _____                        | _____      | _____ |
| k. Average Water Maintained Temperature    | _____                        | _____      | _____ |
| l. Temperature Differential (j) - (k)      | _____                        | _____      | _____ |
| m. Is Hot Water Supply Adequate:           | _____                        | _____      | _____ |
| n. Insulation Thickness                    | <u>NO INSULATING BLANKET</u> | Type _____ | _____ |
| o. Insulation Material                     | _____                        | _____      | _____ |

DOMESTIC HOT WATER SYSTEM/EQUIPMENT



LOCATION

FAL

**SURVEYED BY**

B117 - RIB

DATE 10/92

BUILDING NUMBER

S. 144

**FUNCTION/USE**

NOT IN USE @ Time of Survey

INFORMATION SOURCE (DWG. NO./PERSON)

## VISUAL

## BUILDING AGE: \_\_\_\_\_ YEARS

DUPLICATE BUILDING NOS:

**TOTAL:**

SIMILAR BUILDING NOS:

**TOTAL:**

**BUILDING OCCUPANCY:**

CONTINUOUS (24 HRS/DAY) ☐

NO. OF OCCUPANTS

Indicate (number and) duration of occupants each day

A blank grid for plotting a graph. The vertical axis is labeled with days of the week: M, T, W, T, F, S, S. The horizontal axis is labeled with numbers from 0 to 24 in increments of 2.

**MISCELLANEOUS EQUIPMENT:**

ADDITIONAL COMMENTS, CRITICAL LOADS:

**CRAWL SPACE:**

VENTILATED

EXHAUSTED

Σοφ

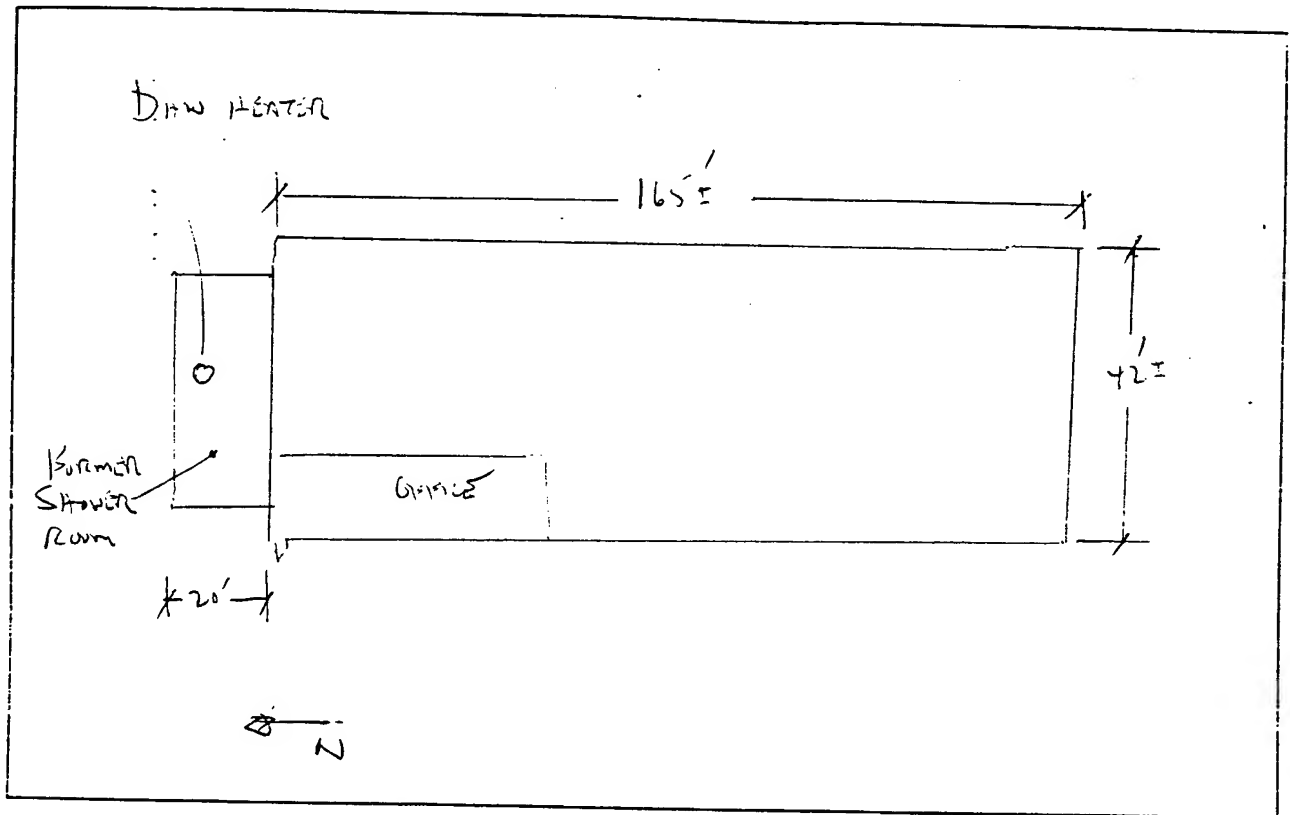
**ATTIC:**

VENTILATED

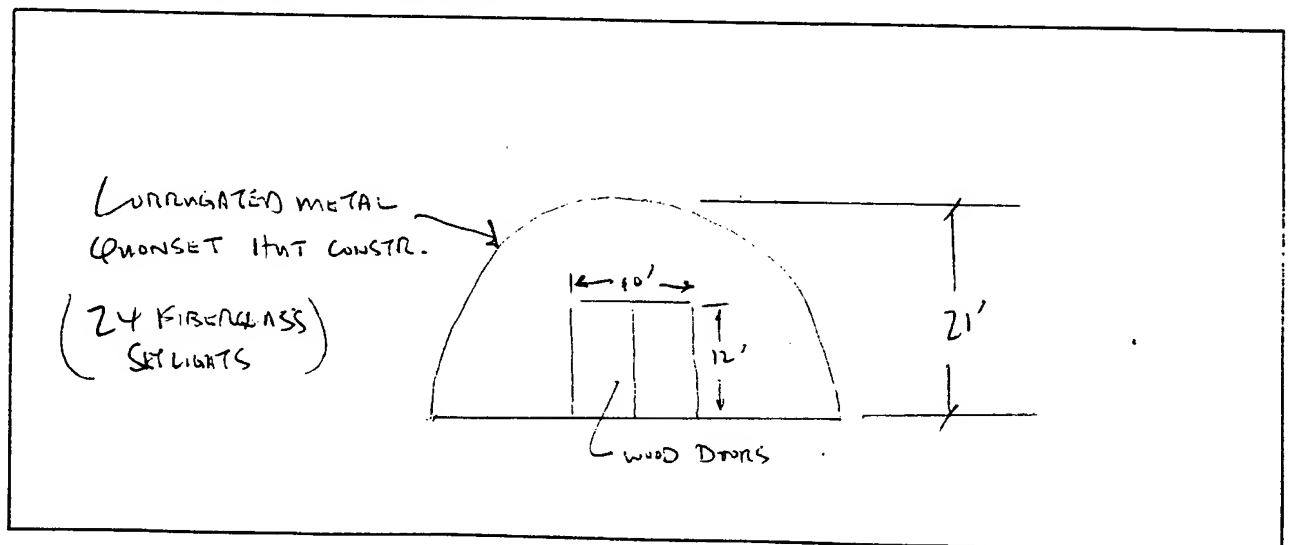
EXHAUSTED

## 7. EXISTENCE KNN

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



### 3.1 HEATING EQUIPMENT

LOCATION FAL  
BLDG. NO. 144

Heat Source:

☐ Furnace ☐ Steam Boiler ☐ Hot Water Boiler ☐ Heat Pump ☐ Supplied Steam or Hot Water (External Boiler Plant)

PROPANE-FIRED  
☒ Other UNIT HEATERS  
4 EA

Capacity: \_\_\_\_\_ Btu/Hr or \_\_\_\_\_ Boiler HP or \_\_\_\_\_ Lbs/Hr Steam or \_\_\_\_\_ GPM Hot Water

Manufacturer: REZNOR Model No.: N/A

Boiler/Furnace Control: ☒ Manual ☐ Time Clock ☐ Demand ☐ EMCS ☐ O<sub>2</sub> Trim

Operating Temperature: \_\_\_\_\_ °F Operating Pressure: \_\_\_\_\_ PSI

Fuel: ☐ Nat. Gas Only ☐ Nat. Gas/  
☒ Other (Specify) PROPANE Draft: ☐ Forced  
☐ Induced

Burner: Mfg. \_\_\_\_\_ Model No. \_\_\_\_\_ Metering Equipment: ☐ Yes ☐ No

Operating Schedule: Weekdays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

Weekdays & Holidays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

Operating Season: From \_\_\_\_\_ Mon/Day, to \_\_\_\_\_ Mon/Day

Flue Gas Temperature: \_\_\_\_\_ °F Receiver Tank Conditions: \_\_\_\_\_ PSIG \_\_\_\_\_ °F

If supplied Steam or Hot Water: Steam Pressure \_\_\_\_\_ PSI Hot Water Supply Temp. \_\_\_\_\_ °F Hot Water Return Temp. \_\_\_\_\_ °F

Insulation: (1) Boiler (2) Other (Specify) \_\_\_\_\_  
Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup> Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>  
None ☐ Temp. \_\_\_\_\_ °F None ☐ Temp. \_\_\_\_\_ °F

Pump: No. of Pumps \_\_\_\_\_ V/PH/FLA \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_ RPM \_\_\_\_\_

HW Pump Starter: ☐ HOA ☐ Reset P/B ☐ S/S Push Button Interlocked with Boiler? ☐ Yes ☐ No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. N/A Model \_\_\_\_\_

Condensate Pumps/Hot Water Pumps: Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_

Boiler/Furnace Condition: \_\_\_\_\_

Describe \_\_\_\_\_

Occupant Discomfort (Evaluate): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

HEATING EQUIPMENT

### 3.2 COOLING EQUIPMENT

LOCATION KITL

BLDG. NO. 144

#### COMPRESSOR(S)/CHILLER

Manufacturer \_\_\_\_\_  
 Model No. \_\_\_\_\_  
 Size \_\_\_\_\_  
 Refrigerant \_\_\_\_\_  
 Motor HP (if available) \_\_\_\_\_  
 Motor Voltage \_\_\_\_\_  
 Motor FLA \_\_\_\_\_  
 Measured Amps \_\_\_\_\_

#### CONDENSER/CONDENSING UNIT

Water Cooled \_\_\_\_\_  
 Air Cooled \_\_\_\_\_  
 Evaporative \_\_\_\_\_  
 Manufacturer N/A \_\_\_\_\_  
 Model No. \_\_\_\_\_  
 Size \_\_\_\_\_  
 Type of Fan \_\_\_\_\_  
 Fan Motor HP \_\_\_\_\_  
 Fan Motor Voltage \_\_\_\_\_  
 Fan Motor FLA \_\_\_\_\_  
 Measured Amps \_\_\_\_\_

#### CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
 Model No. \_\_\_\_\_  
 Capacity, Gals. \_\_\_\_\_  
 Head, Ft. \_\_\_\_\_  
 Motor HP \_\_\_\_\_  
 Motor Voltage \_\_\_\_\_  
 Motor FLA \_\_\_\_\_  
 Measured Amps \_\_\_\_\_

#### COOLING TOWER

Gravity \_\_\_\_\_  
 Mech. Draft \_\_\_\_\_  
 Manufacturer \_\_\_\_\_  
 Model No. \_\_\_\_\_  
 Type of Fan \_\_\_\_\_  
 Fan RPM \_\_\_\_\_  
 Fan Motor HP \_\_\_\_\_  
 Fan Motor Voltage \_\_\_\_\_  
 Fan Motor FLA \_\_\_\_\_  
 Measured Amps \_\_\_\_\_

#### CHILLED WATER PUMPS (If more than one, how many operative during normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
 Model No. \_\_\_\_\_  
 Capacity Gals. \_\_\_\_\_  
 Head, Ft. \_\_\_\_\_  
 Motor HP \_\_\_\_\_  
 Motor Voltage \_\_\_\_\_  
 Motor FLA \_\_\_\_\_  
 Measured Amps \_\_\_\_\_

REMARKS: \_\_\_\_\_

1 EVAP COOLING FOR OFFICE AREA (3/4 HP ±)

COOLING EQUIPMENT

### 3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

LOCATION File  
BLDG. NO. 144

- a. Is System Supported from (check one):  
☐ Central Plant  
☒ One System per Building  
☐ Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: NOT USED °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
- d. Is Piping System Insulated and Condition: \_\_\_\_\_
- e. Is Hot Water Circulated? \_\_\_\_\_  
 1) Condition of circulator \_\_\_\_\_ 3) Is aquastat provided? \_\_\_\_\_  
 2) Circulator capacity \_\_\_\_\_ 4) Aquastat temperature setting \_\_\_\_\_

#### DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- |  |                                  |       |       |
|--|----------------------------------|-------|-------|
| a. Location                                | <u>SHOWER ANNEX</u>              | _____ | _____ |
| b. Areas Served                            | _____                            | _____ | _____ |
| c. Manufacturer and Model                  | <u>A.O. SMITH BT-500A-721</u>    | _____ | _____ |
| d. Energy (Oil, Gas, Electric, Coal, Etc.) | <u>Propane</u>                   | _____ | _____ |
| e. Type Heaters & Quantities:              |                                  |       |       |
| 1) Storage                                 | <u>✓</u>                         | _____ | _____ |
| 2) Instantaneous                           | _____                            | _____ | _____ |
| 3) Semi-Instantaneous                      | _____                            | _____ | _____ |
| f. Heater Size and Storage Capacity        | <u>69 GAL.</u>                   | _____ | _____ |
| g. Heating Capacity                        | <u>500 MBH 420 GPH @ 100° ΔT</u> | _____ | _____ |
| h. Type Controls (Air, Steam, Electric)    | _____                            | _____ | _____ |
| i. When Installed & Condition              | _____                            | _____ | _____ |
| j. Heater Temperature Setting              | _____                            | _____ | _____ |
| k. Average Water Maintained Temperature    | _____                            | _____ | _____ |
| l. Temperature Differential (j) - (k)      | _____                            | _____ | _____ |
| m. Is Hot Water Supply Adequate:           | _____                            | _____ | _____ |
| n. Insulation Thickness                    | _____                            | _____ | _____ |
| o. Insulation Material                     | _____                            | _____ | _____ |

DOMESTIC HOT WATER SYSTEM/EQUIPMENT

LIGHTING  
4.2.1



## 2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHL SURVEYED BY BIH DATE 9/29/92  
 BUILDING NUMBER S-146 FUNCTION/USE UTILITY SHOP; PLUMBING, HTS, ELEC.  
 INFORMATION SOURCE (DWG. NO./PERSON) INTERVIEW CURT HERMANSON

### GENERAL BUILDING DATA

BUILDING AGE: N/A YEARS OLDER BUDS

DUPLICATE BUILDING NOS: \_\_\_\_\_

TOTAL: \_\_\_\_\_

SIMILAR BUILDING NOS: \_\_\_\_\_

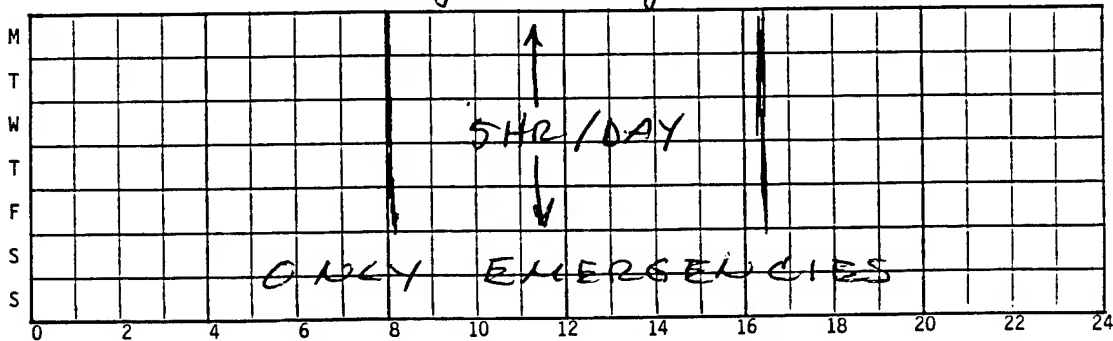
TOTAL: \_\_\_\_\_

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) ☐

NO. OF OCCUPANTS 1 to 5

Indicate (number and) duration of occupants each day

Average 6 Hrs / day use - intermittent, lights on all day



MISCELLANEOUS EQUIPMENT: See list in mech. section

ADDITIONAL COMMENTS, CRITICAL LOADS: seems tolerable in summer  
OK in winter.

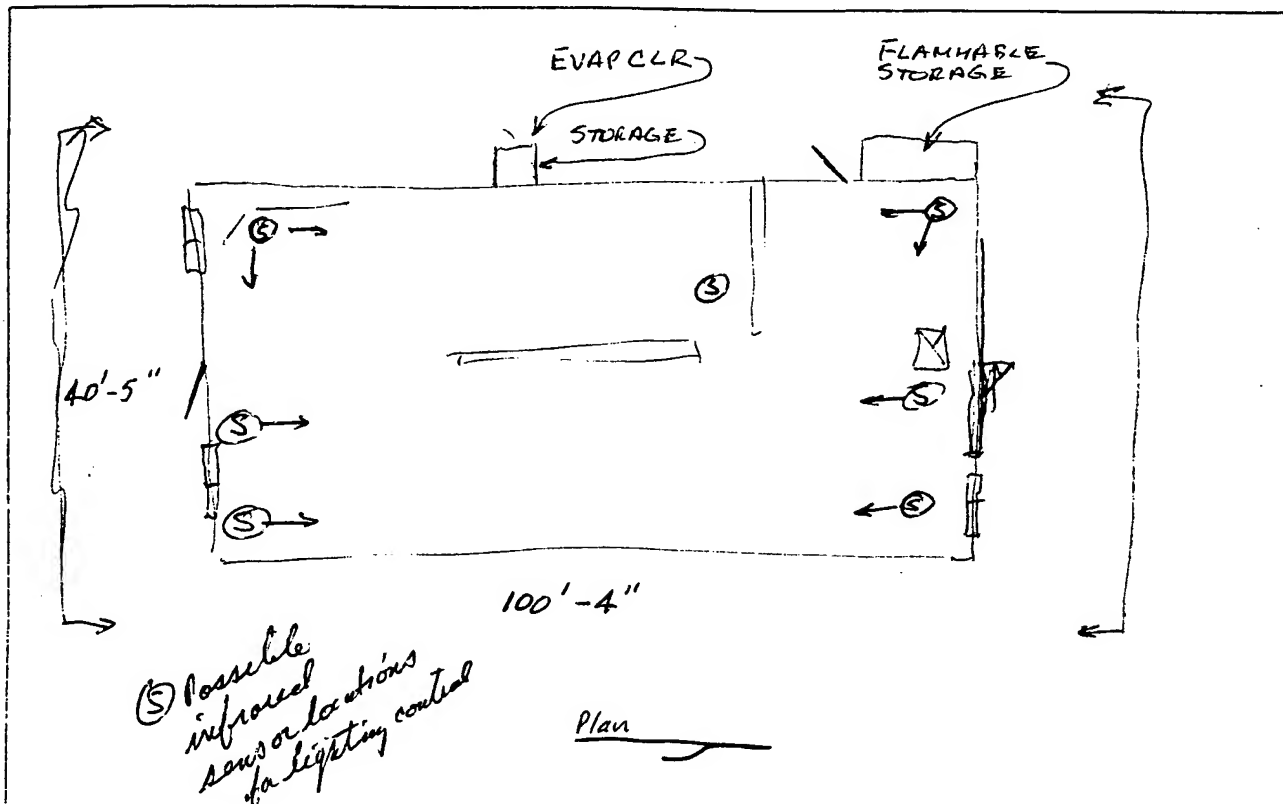
CRAWL SPACE: VENTILATED ☐ EXHAUSTED ☐ NONE

ATTIC: VENTILATED ☐ EXHAUSTED ☐ NONE False ceiling. 1' below

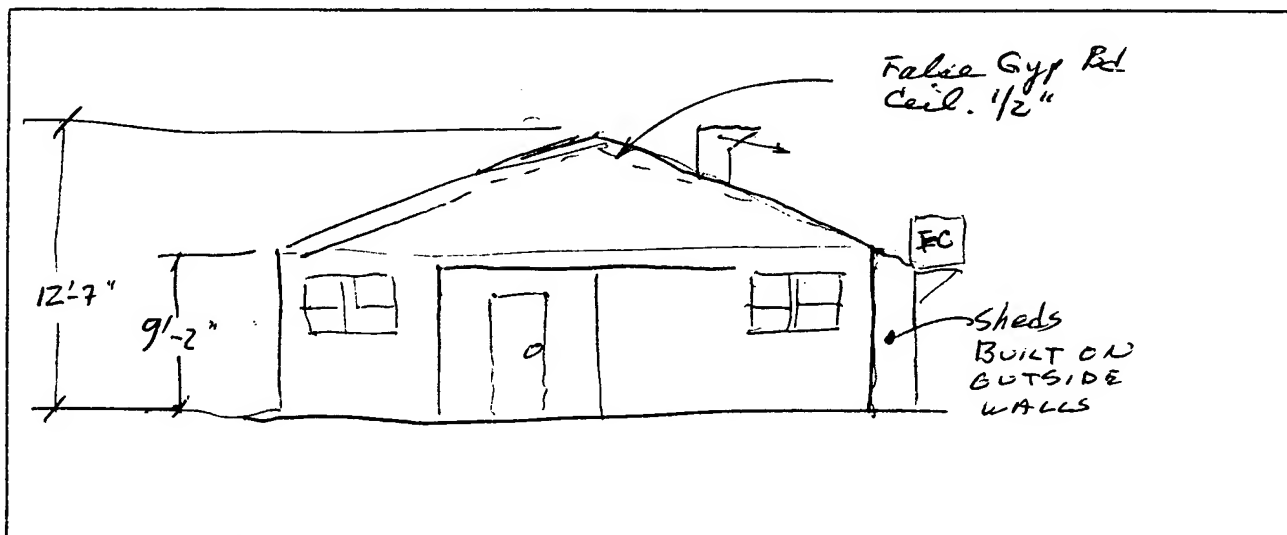
## 2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

LOCATION FHL  
BLDG. NO. 146

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



BUILDING FLOOR PLAN AND  
ELEVATION SKETCHES

TOTAL AREA		U-VALUE	
------------	--	---------	--

**LEGEND :**

**\*GLAZING:**

**\*\*FRAME:**

\*\*\*SHADING:

\*\*\*\*\*VISIBILITY:

**WINDOW TYPES:**

1 - ORDINARY  
2 -  $\frac{1}{4}$ " PLATE  
3 - HEAT ABSORBING  
4 - TINTED

W - WOOD  
M - METAL  
T - METAL/THERMAL BREAK

A - SOLAR FILM  
B - VEN BLIND  
C - STORM WINDOW  
D - DRAPES

E - AWNING  
F - SOLAR SCREEN  
G - OVERHANG  
OTHER - SPECIFY

1 - DOUBLE HUNG	4 - CASEMENT
2 - SINGLE HUNG	5 - LOUVERED
3 - SLIDING	6 - FIXED GLASS

## 2.4 BUILDING ENVELOPE

LOCATION FALBLDG. NO. 146

## CONSTRUCTION

WALL

COLOR: D ☐M ☐L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
<i>Corr. Metal</i>	<i>1/16</i>	
	<i>3 1/2"</i>	
<i>Gyp Bd.</i>	<i>1/2"</i>	
<i>Masonite</i>	<i>1/8"</i>	
INSIDE FILM		
TOTAL		

U-FACTOR

AREA

FLOOR

SOG

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR

AREA

BUILDING SKIRTING MATERIAL

None

## ROOF (INCL. CLG.)

TYPE: F ☐P ☐COLOR: D ☐M ☐L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
<i>Corr Metal</i>	<i>1/16</i>	
<i>Air Space</i>		
<i>Gyp Board</i>		
INSIDE FILM		
<i>not Vented.</i> TOTAL		

U-FACTOR

AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR

AREA

BUILDING ENVELOPE

2.4

LOCATION FAL  
BLDG. NO. 146

3.1 HEATING EQUIPMENT

Heat Source:

☒ Furnace ☐ Steam Boiler ☐ Hot Water Boiler ☐ Heat Pump ☐ Supplied Steam or Hot Water (External Boiler Plant) ☐ Other \_\_\_\_\_

*no nameplate - 6 burners*

Capacity: 250,000 Btu/Hr or \_\_\_\_\_ Boiler HP or \_\_\_\_\_ Lbs/Hr Steam or \_\_\_\_\_ GPM Hot Water

Manufacturer: Lennox Model No.: G13Q5-165-1

*SN 58736*

Boiler/Furnace Control: ☐ Manual ☐ Time Clock ☒ Demand ☐ EMCS ☐ O<sub>2</sub> Trim

Operating Temperature: 200°F Limit + 160°F Fan On °F Operating Pressure: N/A PSI

*50°F Fan On Honeywell*

Fuel: ☐ Nat. Gas Only ☐ Nat. Gas/ \_\_\_\_\_ Draft: ☐ Forced

☒ Other (Specify) Propane *3/4" supply* ☒ Induced

Burner: Mfg. Some Model No. \_\_\_\_\_ Metering Equipment: ☐ Yes ☒ No

*On demand during winter*

Operating Schedule: Weekdays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day

Weekdays & Holidays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day

Operating Season: From \_\_\_\_\_ Mon/Day, to \_\_\_\_\_ Mon/Day

Flue Gas Temperature: \_\_\_\_\_ °F Receiver Tank Conditions: \_\_\_\_\_ PSIG \_\_\_\_\_ °F

If supplied Steam or Hot Water: Steam Pressure \_\_\_\_\_ PSI Hot Water Supply Temp. \_\_\_\_\_ °F Hot Water Return Temp. \_\_\_\_\_ °F

Insulation: (1) Boiler *Furnace is old, in poor condition, but operating* (2) Other (Specify) SA DUCT

Poor ☐ Area 305F FT<sup>2</sup> Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>

None ☐ Temp. \_\_\_\_\_ °F None ☒ Temp. 30°F - 160°F °F

*Heating only*

Pump: No. of Pumps None V/PH/FLA \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_ RPM \_\_\_\_\_

HW Pump Starter: ☐ HOA ☐ Reset P/B ☐ S/S Push Button Interlocked with Boiler? ☐ Yes ☐ No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. \_\_\_\_\_ Model \_\_\_\_\_

Condensate Pumps/Hot Water Pumps: Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_

Boiler/Furnace Condition: \_\_\_\_\_

Describe \_\_\_\_\_

Occupant Discomfort (Evaluate): No complaints - Filter Clean

HEATING EQUIPMENT

3.2 COOLING EQUIPMENTLOCATION FHLBLDG. NO. 146COMPRESSOR(S)/CHILLERNONE

Manufacturer \_\_\_\_\_  
 Model No. \_\_\_\_\_  
 Size \_\_\_\_\_  
 Refrigerant \_\_\_\_\_  
 Motor HP (if available) \_\_\_\_\_  
 Motor Voltage \_\_\_\_\_  
 Motor FLA \_\_\_\_\_  
 Measured Amps \_\_\_\_\_

CONDENSER/CONDENSING UNITNONE

Water Cooled \_\_\_\_\_  
 Air Cooled \_\_\_\_\_  
 Evaporative \_\_\_\_\_  
 Manufacturer \_\_\_\_\_  
 Model No. \_\_\_\_\_  
 Size \_\_\_\_\_  
 Type of Fan \_\_\_\_\_  
 Fan Motor HP \_\_\_\_\_  
 Fan Motor Voltage \_\_\_\_\_  
 Fan Motor FLA \_\_\_\_\_  
 Measured Amps \_\_\_\_\_

COOLING TOWERNONE

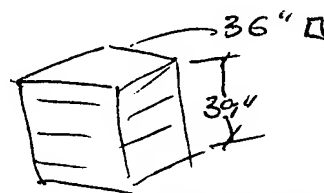
Gravity \_\_\_\_\_  
 Mech. Draft \_\_\_\_\_  
 Manufacturer \_\_\_\_\_  
 Model No. \_\_\_\_\_  
 Type of Fan \_\_\_\_\_  
 Fan RPM \_\_\_\_\_  
 Fan Motor HP \_\_\_\_\_  
 Fan Motor Voltage \_\_\_\_\_  
 Fan Motor FLA \_\_\_\_\_  
 Measured Amps \_\_\_\_\_

CHILLED WATER PUMPS (If more than one, how many  
operative during normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
 Model No. \_\_\_\_\_  
 Capacity Gals. \_\_\_\_\_  
 Head, Ft. \_\_\_\_\_  
 Motor HP \_\_\_\_\_  
 Motor Voltage \_\_\_\_\_  
 Motor FLA \_\_\_\_\_  
 Measured Amps \_\_\_\_\_

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
 Model No. \_\_\_\_\_  
 Capacity, Gals. \_\_\_\_\_  
 Head, Ft. \_\_\_\_\_  
 Motor HP \_\_\_\_\_  
 Motor Voltage \_\_\_\_\_  
 Motor FLA \_\_\_\_\_  
 Measured Amps \_\_\_\_\_

EVAP COOLER

REMARKS: Evap cooler, see size. Manual control.  
see diagram on following sheet @  
recommended quellotried dampers.

LOCATION FHL  
BLDG. NO. 146

Type	Evap cooler		Furnace	
Unit/Zone	#	#	#	#
Manufacturer				
Model No.				
Type				
RPM of Fan				
Motor HP				
Motor Volts				
Motor FLA				
Measured Amps				
CFM (from Plans)				
Notes				

None

COOLING	HUMIDIFICATION
DX _____	ELEC _____
H <sub>2</sub> O _____	STEAM _____
OTHER _____	H <sub>2</sub> O _____
	OTHER _____
HEATING	
GAS _____	AUX/MISC OTHER _____
H <sub>2</sub> O _____	_____
ELEC _____	_____
OTHER _____	

Type	<u>Furnace</u>	<u>Evap Cooler Media</u>
Condition	<u>good - new</u>	<u>Scal'd up.</u>
Manometer Reading 1/	<u>—</u>	<u>—</u>

### AIR HANDLING EQUIPMENT

LOCATION FHL  
BLDG. NO. 146

a. Is System Supported from (check one): ☐ Central Plant ☒ One System per Building  
☐ Several Small Systems per Building

b. Domestic Hot Water Temperatures provided: none available °F

c. Average Pipe Sizes of All HW Piping and Approximate Run of Each: *N/A*

d. Is Piping System Insulated and Condition: *N/A*

e. Is Hot Water Circulated?

1) Condition of circulator \_\_\_\_\_ 3) Is aquastat provided? \_\_\_\_\_

2) Circulator capacity \_\_\_\_\_ 4) Aquastat temperature setting \_\_\_\_\_

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one) *None available*

**a. Location**

b. Areas Served

c. Manufacturer and Model

d. Energy (Oil, Gas, Electric, Coal, Etc.)

e. Type Heaters & Quantities:

### 1) Storage

## 2) Instantaneous

### 3) Semi-Instantaneous

#### f. Heater Size and Storage Capacity

### g. Heating Capacity

#### h. Type Controls (Air, Steam, Electric)

i. When Installed & Condition

### j. Heater Temperature Setting

k. Average Water Maintained Temperature

1. Temperature Differential (j) - (k)

m. Is Hot Water Supply Adequate:

### n. Insulation Thickness

o. Insulation Material

Type

DOMESTIC HOT WATER SYSTEM/EQUIPMENT



### 3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

LOCATION FHL  
BLDG. NO. 146

CONTROL SYSTEM:

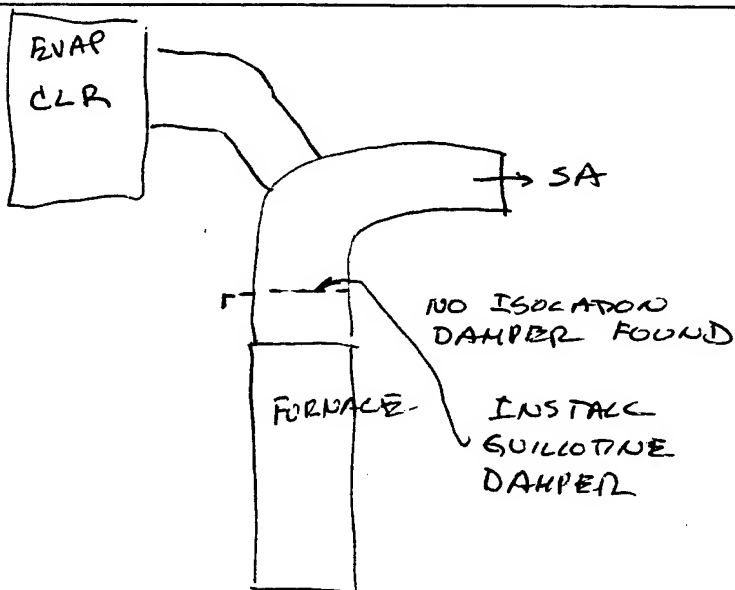
CONTROLLERS: ☐ ELECTRIC ☐ PNEUMATIC  
☐ ELECTRONIC

OPERATION: ☒ cooling ☐ TIME CLOCK  
☐ MANUAL ☐ CONTINUOUS, ☐ EMCS  
☒ Heating ☐ DEMAND

MFG \_\_\_\_\_ MODEL \_\_\_\_\_ LOCATION \_\_\_\_\_

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

Heat/Cool switches



CONTROL/MISCELLANEOUS PROCESS/SKETCHES

## 3.6 SPECIAL EQUIPMENT

LOCATION FHL  
BLDG. NO. 146

IDENTIFICATION NO.	LOCATION (ROOM)	DESCRIPTION (MANUFACTURER, MODEL NO.)	CONNECTED LOAD KW HP	REMARKS
Machine Shop		Exhaust Fan	<del>1.5</del> 1 1/2	
		Drill Press	0.5	
		Saw - Metal	1.0	
		Grinder	1.0	
		Lathe	0.75	
		Line Vektor.	32A 230V	
		Refrigerator Freezer		11 CF
OTHER SHOP AREAS		Drill Press	1.0	
		Universal Taper	0.125	
		Metal Block	Manual	
		Grinder	0.5	
		Drill Press	0.5	
		Grinder	0.5	
		Refrigerator		6 CF
		Ice Machine	1/2 + 1/30 + 9 watts	TOTAL for all units
		Washing Machine		Domestic Type
		Metal Paker	Manual	
		Water Cooler		Standard.

SPECIAL EQUIPMENT



## 2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FAL SURVEYED BY BIH/RJB DATE OCT '92

BUILDING NUMBER T-149 FUNCTION/USE FAMILY HOUSING

INFORMATION SOURCE (DWG. NO./PERSON) VISUAL INSPECTION

### GENERAL BUILDING DATA

BUILDING AGE: \_\_\_\_\_ YEARS

DUPLICATE BUILDING NOS: \_\_\_\_\_

**TOTAL:**

SIMILAR BUILDING NOS: \_\_\_\_\_

**TOTAL:**

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) ☒ NO. OF OCCUPANTS 5

Indicate (number and) duration of occupants each day

**MISCELLANEOUS EQUIPMENT:** \_\_\_\_\_

ADDITIONAL COMMENTS, CRITICAL LOADS: \_\_\_\_\_

CRAWL SPACE: VENTILATED ☐ EXHAUSTED ☐

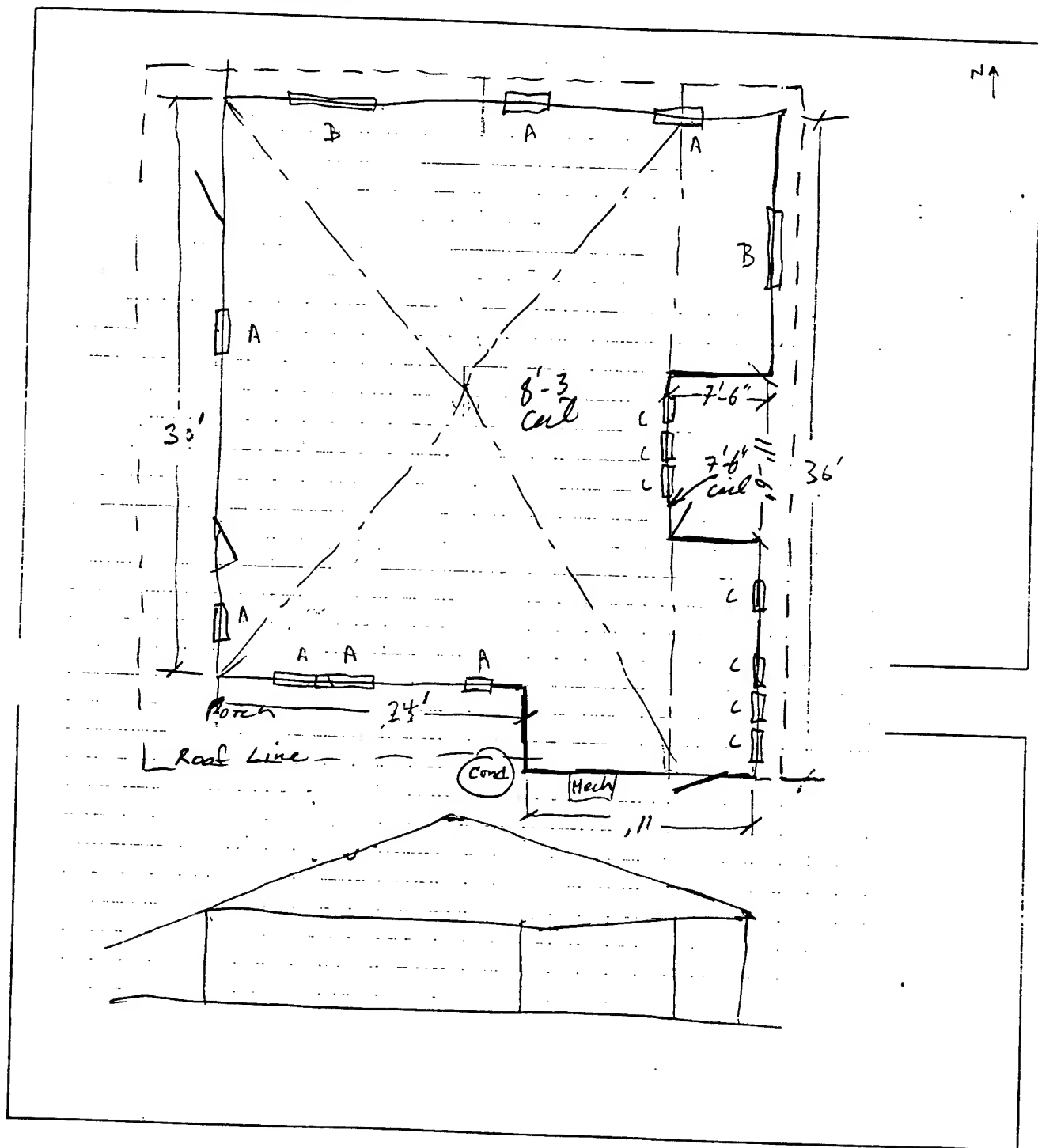
ATTIC: VENTILATED ☒ EXHAUSTED ☐

ARCHITECTURE--MISCELLANEOUS

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

LOCATION FHL  
BLDG. NO. 149

FLOOR PLAN (Show dimensions and zones)



BUILDING FLOOR PLAN AND  
ELEVATION SKETCHES

LOCATION FHL  
BLDG. NO. 149

[illegible]

**LEGEND:**

**\*GLAZING:**

1 -	ORDINARY
2 -	1/2" PLATE
3 -	HEAT ABSORBING
4 -	TINTED

**\*\*FRAME:**

**\*\*\*SHADING:**

A - SOLAR FILM  
B - VEN BLIND  
C - STORM WINDOW  
D - DRAPES

**\*\*\*VISIBILITY:**  
E - AWNING  
F - SOLAR SCREEN  
G - OVERHANG  
OTHER - SPECIFY

1 - DOUBLE HUNG	4 - CASEMENT
2 - SINGLE HUNG	5 - LOUVERED
3 - SLIDING	6 - FIXED GLASS

### 3.1 HEATING EQUIPMENT

LOCATION FHL  
BLDG. NO. 149

Heat Source: CONTAINS DX W/OUT G.W.

☒ Furnace ☐ Steam Boiler ☐ Hot Water Boiler ☐ Heat Pump ☐ Supplied Steam or Hot Water (External Boiler Plant) ☐ Other \_\_\_\_\_

Capacity: 90,000 Btu/Hr or \_\_\_\_\_ Boiler HP or \_\_\_\_\_ Lbs/Hr Steam or \_\_\_\_\_ GPM Hot Water

Manufacturer: CARRIER Model No.: 5BGSC065

Boiler/Furnace Control: ☐ Manual ☐ Time Clock ☐ Demand ☐ EMCS ☐ O<sub>2</sub> Trim

Operating Temperature: \_\_\_\_\_ °F Operating Pressure: \_\_\_\_\_ PSI

Fuel: ☐ Nat. Gas Only ☐ Nat. Gas/ \_\_\_\_\_ Draft: ☐ Forced ☒ Induced  
☒ Other (Specify) PROPANE

Burner: Mfg. \_\_\_\_\_ Model No. \_\_\_\_\_ Metering Equipment: ☐ Yes ☐ No

Operating Schedule: Weekdays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

Weekdays & Holidays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

Operating Season: From \_\_\_\_\_ Mon/Day, to \_\_\_\_\_ Mon/Day

Flue Gas Temperature: \_\_\_\_\_ °F Receiver Tank Conditions: \_\_\_\_\_ PSIG \_\_\_\_\_ °F

If supplied Steam or Hot Water: Steam Pressure \_\_\_\_\_ PSI Hot Water Supply Temp. \_\_\_\_\_ °F Hot Water Return Temp. \_\_\_\_\_ °F

Insulation: (1) Boiler (2) Other (Specify) \_\_\_\_\_  
Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup> Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>  
None ☐ Temp. \_\_\_\_\_ °F None ☐ Temp. \_\_\_\_\_ °F

Pump: No. of Pumps \_\_\_\_\_ V/PH/FLA \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_ RPM \_\_\_\_\_

HW Pump Starter: ☐ HOA ☐ Reset P/B ☐ S/S Push Button Interlocked with Boiler? ☐ Yes ☐ No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. \_\_\_\_\_ Model \_\_\_\_\_

Condensate Pumps/Hot Water Pumps: Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_

Boiler/Furnace Condition: \_\_\_\_\_

Describe \_\_\_\_\_

Occupant Discomfort (Evaluate): \_\_\_\_\_

HEATING EQUIPMENT

3.2 COOLING EQUIPMENTLOCATION FHL  
BLDG. NO. 149COMPRESSOR(S)/CHILLER

Manufacturer CARRIER  
Model No. 38EH036300  
Size \_\_\_\_\_  
Refrigerant \_\_\_\_\_  
Motor HP (if available) \_\_\_\_\_  
Motor Voltage 230V/1φ  
Motor FLA 18.1  
Measured Amps \_\_\_\_\_

CONDENSER/CONDENSING UNIT

Water Cooled \_\_\_\_\_ WASO  
Air Cooled \_\_\_\_\_  
Evaporative \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Size \_\_\_\_\_  
Type of Fan CAND.  
Fan Motor HP 1/8 HP  
Fan Motor Voltage 230/1φ  
Fan Motor FLA 0.9  
Measured Amps \_\_\_\_\_

COOLING TOWER

Gravity \_\_\_\_\_  
Mech. Draft \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Type of Fan \_\_\_\_\_  
Fan RPM \_\_\_\_\_  
Fan Motor HP \_\_\_\_\_  
Fan Motor Voltage \_\_\_\_\_  
Fan Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

CHILLED WATER PUMPS (If more than one, how many  
operative during normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity, Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

REMARKS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_COOLING EQUIPMENT



**TASKS CODE:**

1 = Corridors	6 = Offices-drafting	12 = Storage room
2 = Kitchens	7 = Laundry	13 = Retail store
3 = Dining	8 = Toilets	(PX, commissary)
4 = Offices-general	9 = Sleeping quarters	Other (describe on
5 = Offices-bookkeeping (ledgers only)	10 = Supply rooms	audit form)
	11 = Repair shops	E = Exterior

## 2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHL SURVEYED BY RJB DATE OCT 92  
 BUILDING NUMBER T-156 FUNCTION/USE SHOP  
 INFORMATION SOURCE (DWG. NO./PERSON) VISUAL

### GENERAL BUILDING DATA

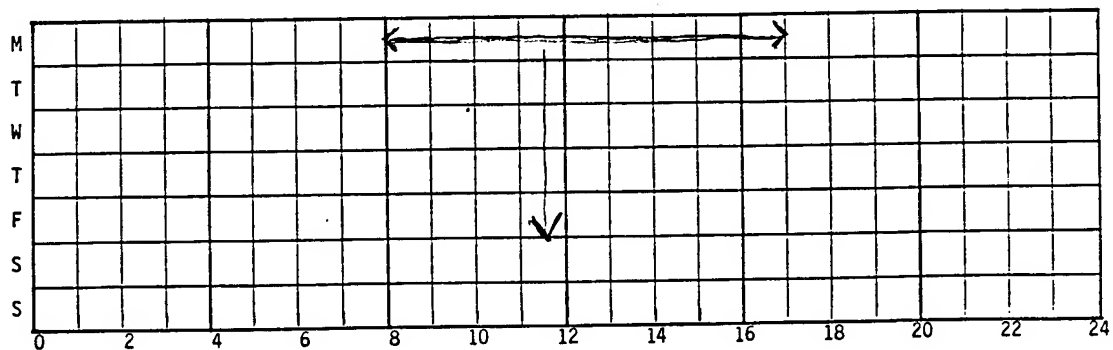
BUILDING AGE: \_\_\_\_\_ YEARS

DUPLICATE BUILDING NOS: \_\_\_\_\_  
 TOTAL: \_\_\_\_\_

SIMILAR BUILDING NOS: \_\_\_\_\_  
 TOTAL: \_\_\_\_\_

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) ☐ NO. OF OCCUPANTS 2

Indicate (number and) duration of occupants each day



MISCELLANEOUS EQUIPMENT: 1, 1 RADIAL SANDER, 4 RADIAL SAWS  
2 LATHE/SANDER, 1 DRILL PRESS, 1 GRINDER, MISC HAND DRILLS/SAWS

ADDITIONAL COMMENTS, CRITICAL LOADS: \_\_\_\_\_

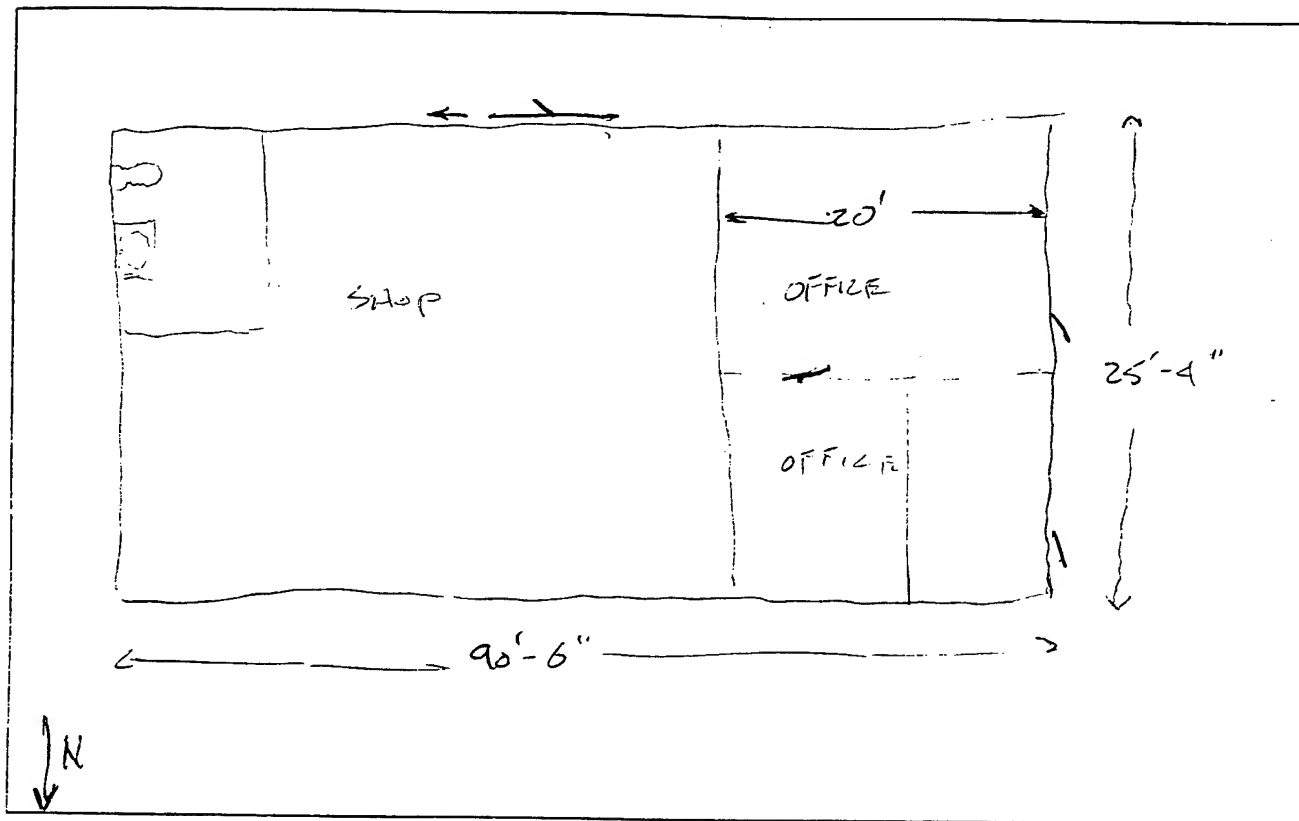
CRAWL SPACE: VENTILATED ☐ EXHAUSTED ☐ NONE

ATTIC: VENTILATED ☐ EXHAUSTED ☐ NONE

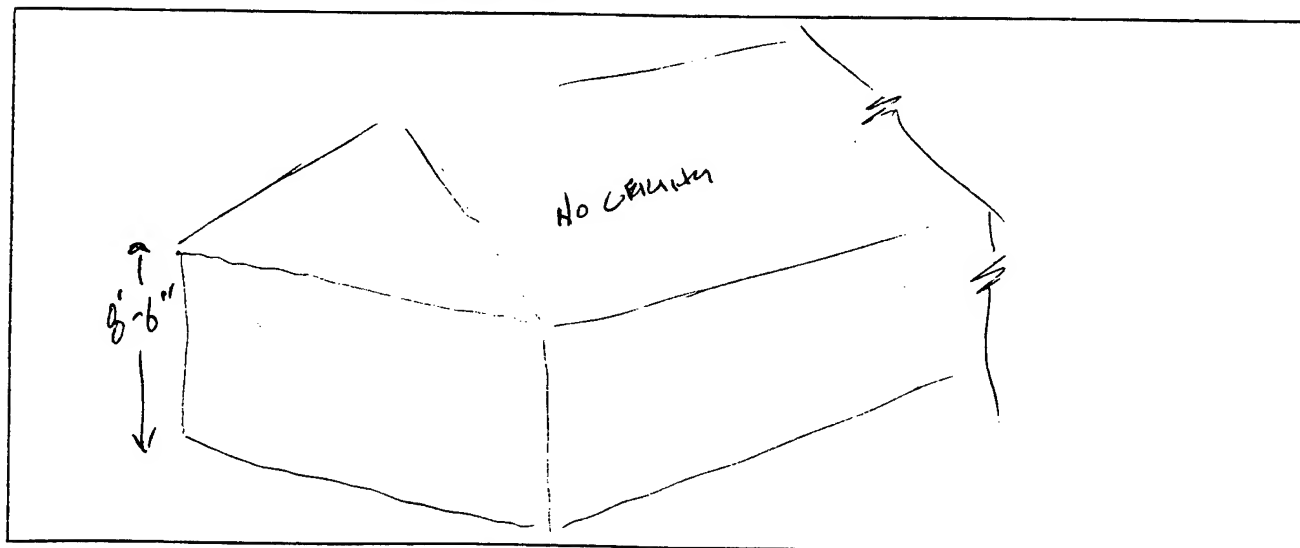
2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

LOCATION FHL  
BLDG. NO. 156

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



BUILDING FLOOR PLAN AND  
ELEVATION SKETCHES



## 2.4 BUILDING ENVELOPE

LOCATION FAL  
BLDG. NO. 156

### CONSTRUCTION

WALL  COLOR: D ☐ M ☒ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

BUILDING SKIRTING MATERIAL

### ROOF (INCL. CLG.)

TYPE: F ☐ P ☐  
COLOR: D ☒ M ☐ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

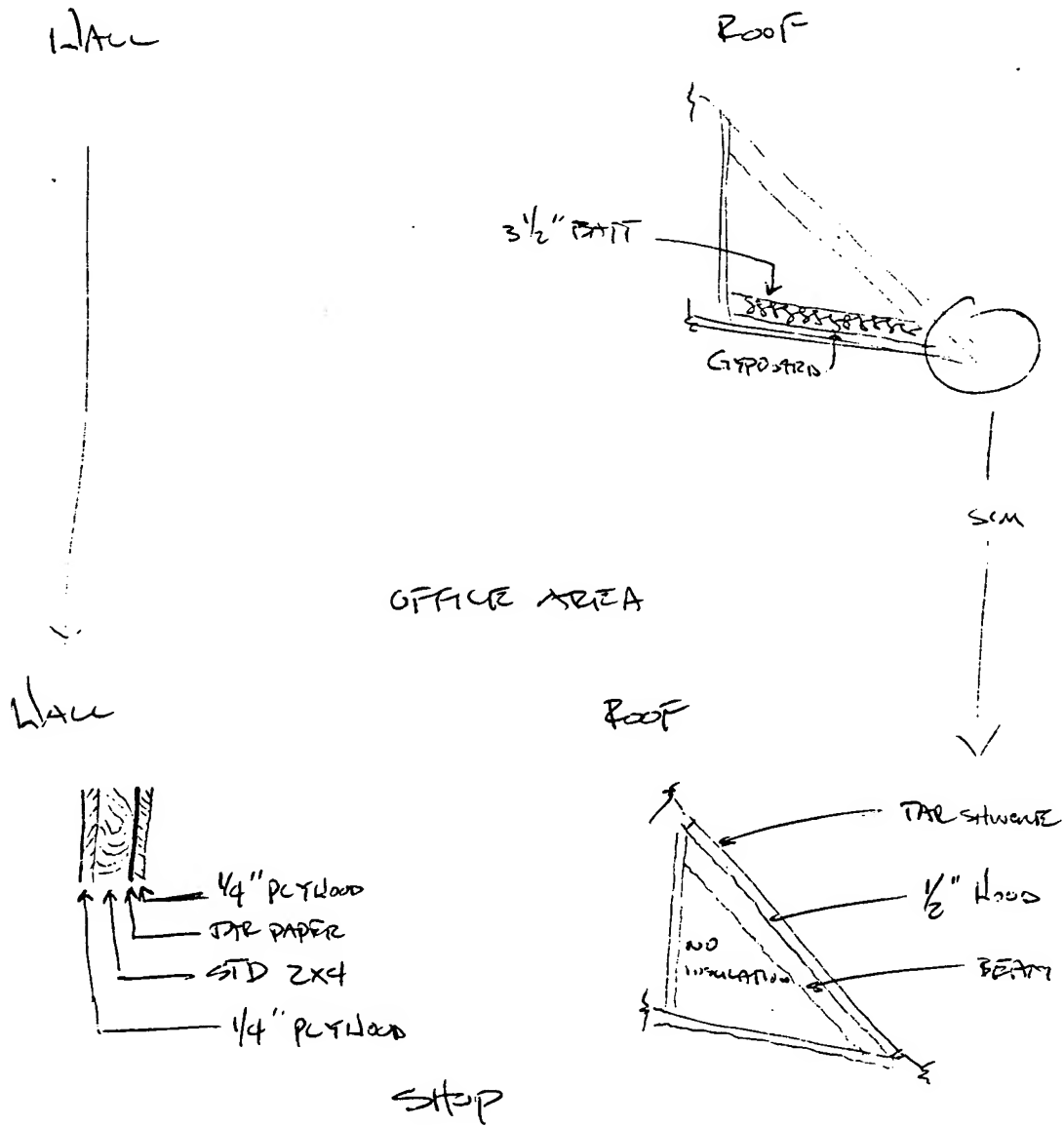
DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

SEE SKETCH  
following PAGE

FHL  
BLDG 156



LOCATION FHL  
BLDG. NO. 156

3.1 HEATING EQUIPMENT

Heat Source:

☐ Furnace ☐ Steam Boiler ☐ Hot Water Boiler ☐ Heat Pump ☐ Supplied Steam or Hot Water (External Boiler Plant) ☐ Other OFFICE ELEC WALL HEAT WOOD-BURNING STOVE

Capacity: \_\_\_\_\_ Btu/Hr or \_\_\_\_\_ Boiler HP or \_\_\_\_\_ Lbs/Hr Steam or \_\_\_\_\_ GPM Hot Water

Manufacturer: NO NAME RATE Model No.: \_\_\_\_\_

HA Boiler/Furnace Control: ☐ Manual ☐ Time Clock ☐ Demand ☐ EMCS ☐ O<sub>2</sub> Trim

Operating Temperature: \_\_\_\_\_ °F Operating Pressure: \_\_\_\_\_ PSI

Fuel: ☐ Nat. Gas Only ☐ Nat. Gas/\_\_\_\_\_ Draft: ☐ Forced  
☒ Other (Specify) Wood ☐ Induced

Burner: Mfg. \_\_\_\_\_ Model No. \_\_\_\_\_ Metering Equipment: ☐ Yes ☐ No

Operating Schedule: Weekdays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_  
DEMAND Weekdays & Holidays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_  
Operating Season: From \_\_\_\_\_ Mon/Day, to \_\_\_\_\_ Mon/Day

Flue Gas Temperature: \_\_\_\_\_ °F Receiver Tank Conditions: \_\_\_\_\_ PSIG \_\_\_\_\_ °F

If supplied Steam or Hot Water: Steam Pressure \_\_\_\_\_ PSI Hot Water Supply Temp. \_\_\_\_\_ °F Hot Water Return Temp. \_\_\_\_\_ °F

Insulation: (1) Boiler

Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>  
None ☐ Temp. \_\_\_\_\_ °F

(2) Other (Specify) \_\_\_\_\_

Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>  
None ☐ Temp. \_\_\_\_\_ °F

Pump: No. of Pumps \_\_\_\_\_ V/PH/FLA \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_ RPM \_\_\_\_\_  
HW Pump Starter: ☐ HOA ☐ Reset P/B ☐ S/S Push Button Interlocked with Boiler? ☐ Yes ☐ No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. \_\_\_\_\_ Model \_\_\_\_\_

Condensate Pumps/Hot Water Pumps: Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_

Boiler/Furnace Condition: \_\_\_\_\_  
Describe \_\_\_\_\_

Occupant Discomfort (Evaluate): \_\_\_\_\_

STEP HAS WOOD-BURNING STOVE

HEATING EQUIPMENT

# 3.2 COOLING EQUIPMENT

LOCATION FHL  
BLDG. NO. 156

## COMPRESSOR(S)/CHILLER

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Size \_\_\_\_\_  
Refrigerant \_\_\_\_\_  
Motor HP (if available) \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

## CONDENSER/CONDENSING UNIT

Water Cooled \_\_\_\_\_  
Air Cooled \_\_\_\_\_  
Evaporative \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Size \_\_\_\_\_  
Type of Fan \_\_\_\_\_  
Fan Motor HP \_\_\_\_\_  
Fan Motor Voltage \_\_\_\_\_  
Fan Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

## CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity, Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

## COOLING TOWER

Gravity \_\_\_\_\_  
Mech. Draft \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Type of Fan \_\_\_\_\_  
Fan RPM \_\_\_\_\_  
Fan Motor HP \_\_\_\_\_  
Fan Motor Voltage \_\_\_\_\_  
Fan Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

## CHILLED WATER PUMPS (If more than one, how many operative during normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

REMARKS:

Unit A/C UNIT IN OFFICE  
2X SWAMP COOLERS IN SHIP

Unit A/C IN OFFICE / LUNGE  
(1-2 Tons)

COOLING EQUIPMENT



### 3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

LOCATION FPL  
BLOG. NO. 156

- a. Is System Supported from (check one): ☐ Central Plant ☒ One System per Building  
☐ Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: 140° °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:  
1/2"
- d. Is Piping System Insulated and Condition: \_\_\_\_\_
- e. Is Hot Water Circulated? No
- 1) Condition of circulator \_\_\_\_\_ 3) Is aquastat provided? \_\_\_\_\_  
2) Circulator capacity \_\_\_\_\_ 4) Aquastat temperature setting \_\_\_\_\_

#### DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- |  |                            |      |  |
|--|----------------------------|------|--|
| a. Location                                | <u>ENTRANCE</u>            |      |  |
| b. Areas Served                            | <u>"</u>                   |      |  |
| c. Manufacturer and Model                  | <u>STATE SCI 6 IM-1 KF</u> |      |  |
| d. Energy (Oil, Gas, Electric, Coal, Etc.) | <u>ELECTRIC</u>            |      |  |
| e. Type Heaters & Quantities:              |                            |      |  |
| 1) Storage                                 | <u>6 GAL</u>               |      |  |
| 2) Instantaneous                           |                            |      |  |
| 3) Semi-Instantaneous                      | <u>X</u>                   |      |  |
| f. Heater Size and Storage Capacity        | <u>6 GAL</u>               |      |  |
| g. Heating Capacity                        | <u>1.65 KW</u>             |      |  |
| h. Type Controls (Air, Steam, Electric)    | <u>MAN</u>                 |      |  |
| i. When Installed & Condition              |                            |      |  |
| j. Heater Temperature Setting              |                            |      |  |
| k. Average Water Maintained Temperature    |                            |      |  |
| l. Temperature Differential (j) - (k)      |                            |      |  |
| m. Is Hot Water Supply Adequate:           | <u>YES</u>                 |      |  |
| n. Insulation Thickness                    | <u>1/2"</u>                | Type |  |
| o. Insulation Material                     | <u>W/A</u>                 |      |  |

### 3.6 SPECIAL EQUIPMENT

LOCATION FAL  
BLDG. NO. 156

[illegible]

SPECIAL EQUIPMENT

#### 4.2.1 Interior Lighting

**BLDG.**

LOCATION	FILE

## LIGHTING

[illegible]

LIGHTING LEGEND:

**Lamp Types:**

Incandescent = I  
Fluorescent = F  
Sodium Vapor = SV  
Mercury Vapor = MV  
Metal Halide = MH  
Other--Describe

**Window Code:**

**If there are windows, indicate:**

Curtains = C  
Shades = S  
No Shading = NS

**Tasks Code:**

1 = Corridors  
2 = Kitchens  
3 = Dining  
4 = Offices-general  
5 = Offices-bookkeeping (ledgers only)  
6 = Offices-drafting  
7 = Laundry  
8 = Toilets  
9 = Sleeping quarters  
10 = Supply rooms  
11 = Repair shops  
12 = Storage room  
13 = Retail store (PX, commissary)  
Other (describe on audit form)  
E = Exterior

LIGHTING  
4.2.1

LOCATION FAL  
BLDG. NO. 156

#### 4.3 POWER USAGE SURVEY

##### 4.3.1 CRITICAL LOAD (Computer, Communications)

Describe: COMPUTER IN OFFICE  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4.3.2 RECEPTACLES IN USE 50% PERCENT

##### 4.3.3 SMALL APPLIANCES IN USE (ENTER COUNT)

Water Cooler	<u>1</u>
Vending Machine	<u>—</u>
Space Heater	<u>—</u>
Coffee Pot	<u>1</u>
TV	<u>—</u>
XEROX	<u>—</u>

Other:

<u>PRINTER</u>	_____
<u>REFRIG</u>	_____
<u>(SMALL DEVICES etc. stuff)</u>	_____
_____	_____

POWER USAGE SURVEY

BLDG. NO. 156

[illegible]

## 4.4

## 2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHC SURVEYED BY RJB DATE OCT 92  
 BUILDING NUMBER 1601 FUNCTION/USE OFFICE  
 INFORMATION SOURCE (DWG. NO./PERSON) VISUAL

### GENERAL BUILDING DATA

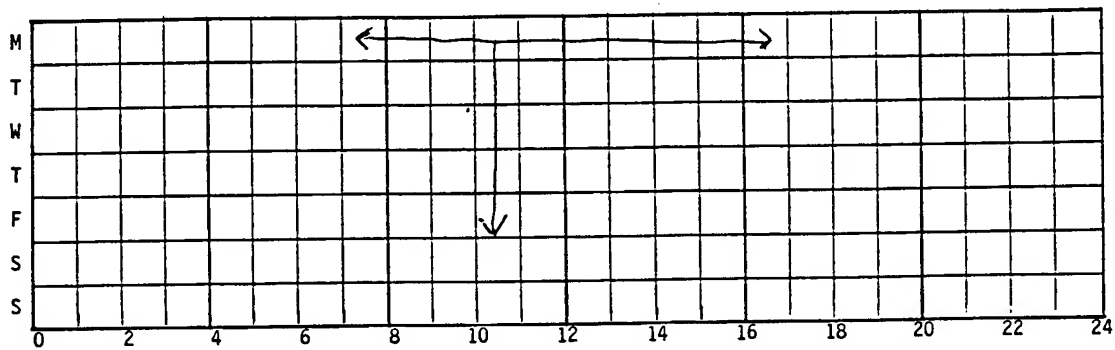
BUILDING AGE: NUM YEARS

DUPLICATE BUILDING NOS: 162  
 TOTAL: 2

SIMILAR BUILDING NOS: \_\_\_\_\_  
 TOTAL: \_\_\_\_\_

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) ☐ NO. OF OCCUPANTS 12

Indicate (number and) duration of occupants each day



MISCELLANEOUS EQUIPMENT: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

ADDITIONAL COMMENTS, CRITICAL LOADS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

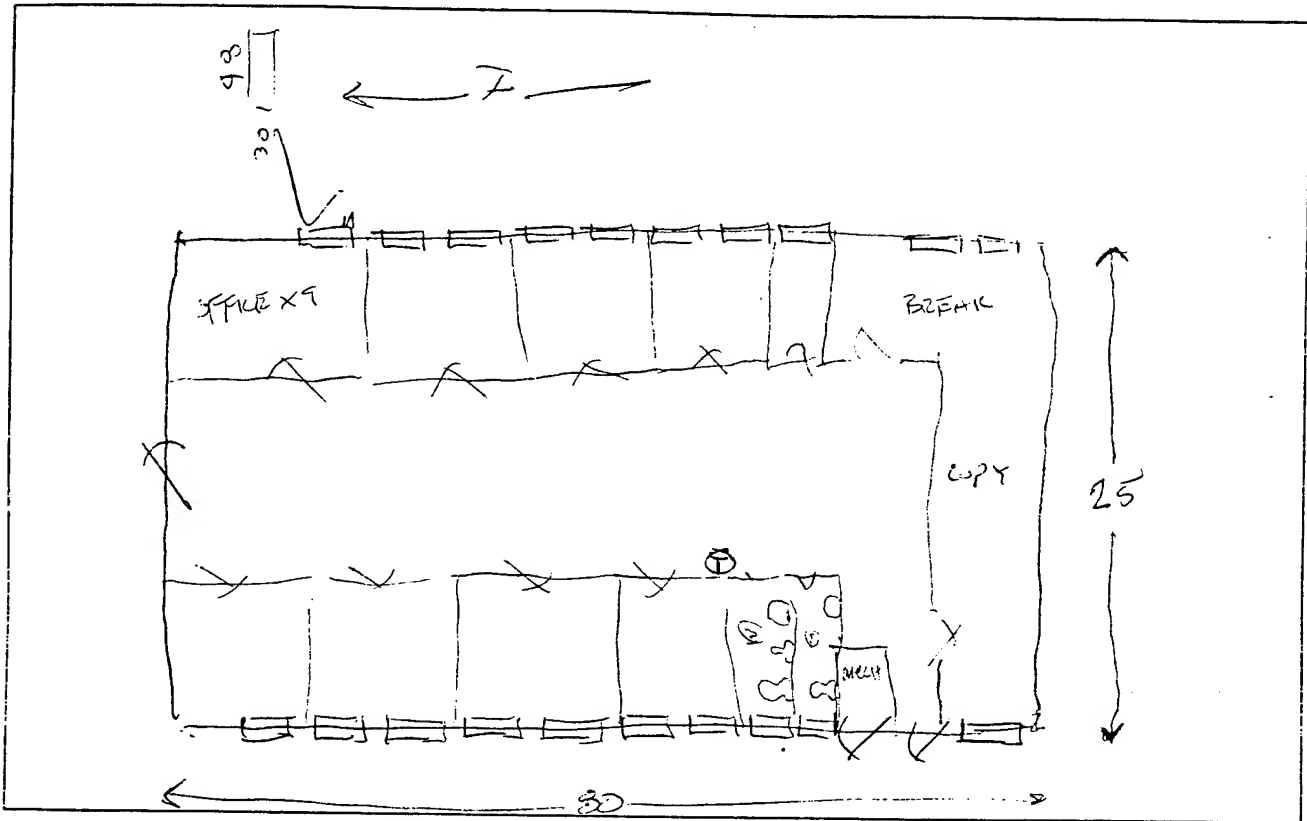
CRAWL SPACE: VENTILATED ☐ EXHAUSTED ☐ WASTE Sog

ATTIC: VENTILATED ☒ EXHAUSTED ☐

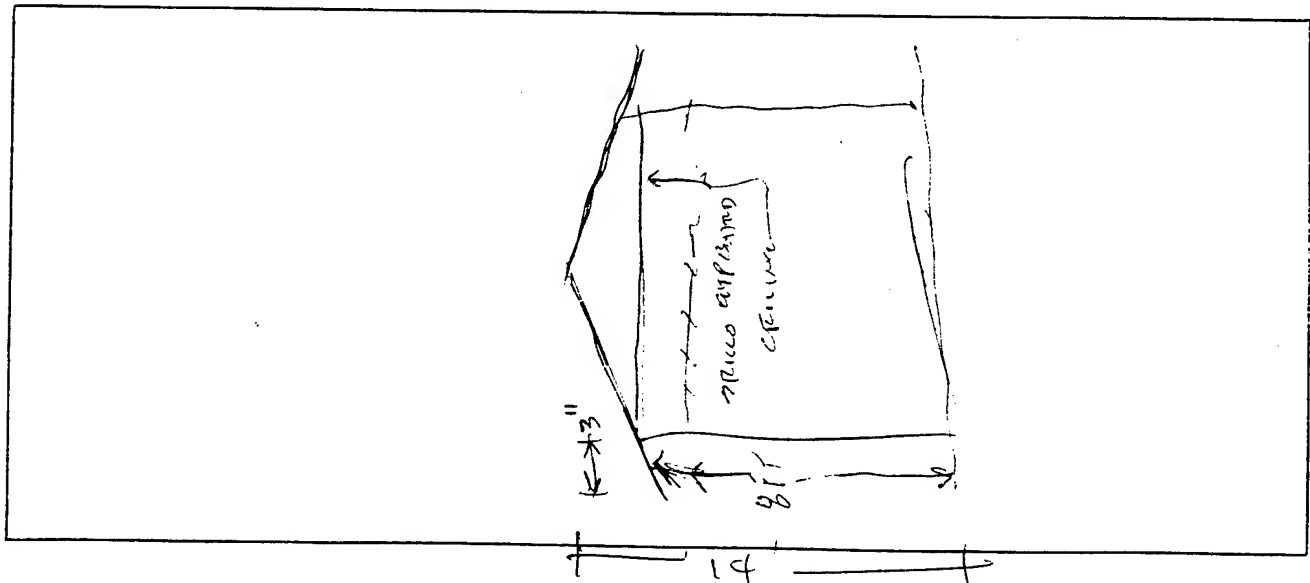
2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

LOCATION FHL  
BLDG. NO. 161

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



BUILDING FLOOR PLAN AND  
ELEVATION SKETCHES

## 2.3

LOCATION

BLDG. NO.

[illegible]

LEGEND:

\*\*\*SHADING:

A - SOLAR FILM  
B - VEN BLIND  
C - STORM WINDOW  
D - DRAPES

**\*\*FRAME:**

W - WOOD  
M - METAL  
T - METAL/THERMAL BREAK

**\*GLAZING:**

1	-	ORDINARY
2	-	1" PLATE
3	-	HEAT ABSORBING
4	-	TINTED

\*\*\*VISIBILITY:

E - AWNING  
F - SOLAR SCREEN  
G - OVERHANG  
OTHER - SPECIFY

WINDOW TYPES:

1 - DOUBLE HUNG	4 - CASEMENT
2 - SINGLE HUNG	5 - LOUVERED
3 - SLIDING	6 - FIXED GLASS

## ARCHITECTURAL WINDOWS & DOORS



## 2.4 BUILDING ENVELOPE

LOCATION FHC

BLDG. NO. 161

### CONSTRUCTION

WALL

COLOR: D

☐

M

☐

L

☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
WOOD PANEL	1/4"	
POLY STYRENE	1"	
SMO	4"	
GIP BOARD	1/4"	
INSIDE FILM		

TOTAL

U-FACTOR

AREA

FLOOR

 S.O.G.

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		

TOTAL

U-FACTOR

AREA

BUILDING SKIRTING MATERIAL

ROOF (INCL. CLG.)

TYPE: F

☐

P

☐

COLOR: D

☐

M

☐

L

☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
WATERPROOF		
POLY WOOD	1/4"	
STUD	2"	
SPACIE	0-5' A	
GIP BOARD		
INSIDE FILM		

TOTAL

U-FACTOR

AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
WOOD	2"	
INSIDE FILM		

TOTAL

U-FACTOR

AREA

BUILDING ENVELOPE

2.4

LOCATION FHL  
BLDG. NO. 161

3.1 HEATING EQUIPMENT - SEE 3.2

Heat Source:

☐ Furnace ☐ Steam Boiler ☐ Hot Water Boiler ☐ Heat Pump ☐ Supplied Steam or Hot Water (External Boiler Plant)

☒ Other PACKAGED HEAT/COIL UNIT

Capacity: 100,000 Btu/Hr or \_\_\_\_\_ Boiler HP or \_\_\_\_\_ Lbs/Hr Steam or \_\_\_\_\_ GPM Hot Water

Manufacturer: \_\_\_\_\_ Model No.: \_\_\_\_\_

Boiler/Furnace Control: ☐ Manual ☐ Time Clock ☐ Demand ☐ EMCS ☐ O<sub>2</sub> Trim

Operating Temperature: \_\_\_\_\_ °F Operating Pressure: \_\_\_\_\_ PSI

Fuel: ☐ Nat. Gas Only ☐ Nat. Gas/ \_\_\_\_\_  
☒ Other (Specify) PROPANE

Draft: ☐ Forced  
\_\_\_\_\_ Induced

Burner: Mfg. \_\_\_\_\_ Model No. \_\_\_\_\_ Metering Equipment: ☐ Yes ☐ No

Operating Schedule: Weekdays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

Weekdays & Holidays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

Operating Season: From \_\_\_\_\_ Mon/Day, to \_\_\_\_\_ Mon/Day

Flue Gas Temperature: \_\_\_\_\_ °F Receiver Tank Conditions: \_\_\_\_\_ PSIG \_\_\_\_\_ °F

If supplied Steam or Hot Water: Steam Pressure \_\_\_\_\_ PSI Hot Water Supply Temp. \_\_\_\_\_ °F Hot Water Return Temp. \_\_\_\_\_ °F

Insulation: (1) Boiler (2) Other (Specify) \_\_\_\_\_  
Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup> Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>  
None ☐ Temp. \_\_\_\_\_ °F None ☐ Temp. \_\_\_\_\_ °F

Pump: No. of Pumps N/A V/PH/FLA \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_ RPM \_\_\_\_\_

HW Pump Starter: ☐ HOA ☐ Reset P/B ☐ S/S Push Button Interlocked with Boiler? ☐ Yes ☐ No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. \_\_\_\_\_ Model \_\_\_\_\_

Condensate Pumps/Hot Water Pumps: Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_

Boiler/Furnace Condition: \_\_\_\_\_

Describe \_\_\_\_\_

Occupant Discomfort (Evaluate): \_\_\_\_\_

HEATING EQUIPMENT

# 3.2 COOLING EQUIPMENT LEHIOX SPUT SYSTEM

LOCATION FIL  
 BLDG. NO. 101

## COMPRESSOR(S)/CHILLER

Compressors

Manufacturer	<u>Low</u>	<u>High</u>
Model No.	_____	_____
Size	_____	_____
Refrigerant	<u>R-22</u>	<u>R-22</u>
Motor HP (if available)	_____	_____
Motor Voltage	<u>208/250</u>	<u>208/230</u>
Motor FLA	<u>17.3 FLA</u>	<u>26.5 FLA</u>
Measured Amps	_____	_____

## COOLING TOWER

Gravity	_____	_____
Mech. Draft	_____	_____
Manufacturer	_____	_____
Model No.	_____	_____
Type of Fan	_____	_____
Fan RPM	_____	_____
Fan Motor HP	_____	_____
Fan Motor Voltage	_____	_____
Fan Motor FLA	_____	_____
Measured Amps	_____	_____

## CONDENSER/CONDENSING UNIT

Water Cooled	_____	_____
Air Cooled	<u>X</u>	_____
Evaporative	_____	_____
Manufacturer	<u>LEWIS</u>	_____
Model No.	<u>HS17-953-3Y</u>	_____
Size	_____	_____
Type of Fan	<u>PROP</u>	_____
Fan Motor HP	<u>3/4</u>	_____
Fan Motor Voltage	<u>208/230</u>	_____
Fan Motor FLA	<u>3.7</u>	_____
Measured Amps	<u>25</u>	_____

## CHILLED WATER PUMPS (If more than one, how many operative during normal operation: \_\_\_\_\_)

Manufacturer	_____	_____
Model No.	_____	_____
Capacity Gals.	_____	_____
Head, Ft.	_____	_____
Motor HP	_____	_____
Motor Voltage	_____	_____
Motor FLA	_____	_____
Measured Amps	_____	_____

## CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: \_\_\_\_\_)

Manufacturer	_____	_____	_____
Model No.	_____	_____	_____
Capacity, Gals.	_____	_____	_____
Head, Ft.	_____	_____	_____
Motor HP	_____	_____	_____
Motor Voltage	_____	_____	_____
Motor FLA	_____	_____	_____
Measured Amps	_____	_____	_____

REMARKS: THERMOSTAT IS NOT RECOMMENDED HOWEVER IT DOES  
HAVE A TIME SWITCH

COOLING EQUIPMENT

### 3.3 AIR HANDLING EQUIPMENT

LOCATION Fin  
BLDG. NO. 161

#### FANS

Type	<u>VERT INDUR</u>			
Unit/Zone	#	#	#	#
Manufacturer	<u>REXROTH</u>			
Model No.	<u>G1603/4-100-1</u>			
Type	<u>CENT direct</u>			
RPM of Fan				
Motor HP	<u>1/2</u>			
Motor Volts	<u>120</u>			
Motor FLA				
Measured Amps				
CFM (from Plans)				
Notes	<u>120V</u>			

#### COILS

Indicate capacities where found:

##### COOLING

DX 2 STAGE  
H<sub>2</sub>O \_\_\_\_\_  
OTHER \_\_\_\_\_

##### HUMIDIFICATION

ELEC \_\_\_\_\_  
STEAM \_\_\_\_\_  
H<sub>2</sub>O \_\_\_\_\_  
OTHER \_\_\_\_\_

##### HEATING

GAS \_\_\_\_\_  
H<sub>2</sub>O \_\_\_\_\_  
ELEC \_\_\_\_\_  
OTHER 100,000 BTU input

##### AUX/MISC OTHER

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

#### FILTERS

Type	_____	_____	_____
Condition	_____	_____	_____
Manometer Reading 1/	_____	_____	_____

1/ Record only if manometer is installed on the unit.

AIR HANDLING EQUIPMENT

### 3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

LOCATION File  
BLDG. NO. 161

- a. Is System Supported from (check one):  
☐ Central Plant ☐ One System per Building  
☐ Several Small Systems per Building

b. Domestic Hot Water Temperatures provided: \_\_\_\_\_ °F \_\_\_\_\_ °F

c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

d. Is Piping System Insulated and Condition: \_\_\_\_\_

e. Is Hot Water Circulated? \_\_\_\_\_

- 1) Condition of circulator \_\_\_\_\_ 3) Is aquastat provided? \_\_\_\_\_  
 2) Circulator capacity \_\_\_\_\_ 4) Aquastat temperature setting \_\_\_\_\_

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- a. Location \_\_\_\_\_  
 b. Areas Served \_\_\_\_\_  
 c. Manufacturer and Model \_\_\_\_\_  
 d. Energy (Oil, Gas, Electric, Coal, Etc.) \_\_\_\_\_  
 e. Type Heaters & Quantities:  
   1) Storage \_\_\_\_\_  
   2) Instantaneous \_\_\_\_\_  
   3) Semi-Instantaneous \_\_\_\_\_  
 f. Heater Size and Storage Capacity \_\_\_\_\_  
 g. Heating Capacity \_\_\_\_\_  
 h. Type Controls (Air, Steam, Electric) \_\_\_\_\_  
 i. When Installed & Condition \_\_\_\_\_  
 j. Heater Temperature Setting \_\_\_\_\_  
 k. Average Water Maintained Temperature \_\_\_\_\_  
 l. Temperature Differential (j) - (k) \_\_\_\_\_  
 m. Is Hot Water Supply Adequate: \_\_\_\_\_  
 n. Insulation Thickness \_\_\_\_\_ Type \_\_\_\_\_  
 o. Insulation Material \_\_\_\_\_

DOMESTIC HOT WATER SYSTEM/EQUIPMENT

#### 4.2.1 Interior Lighting

161

1783

## LIGHTING

### 4.2.1

LOCATION FHC  
BLDG. NO. 121

4.2 LIGHTING (continued)

4.2.2 Exterior Lighting

<u>ACTUAL NO. OF FIXTURES</u>	<u>TYPE OF FIXTURE</u>	<u>NO. OF FIXTURES IN USE</u>	<u>WATTS/ FIXTURE</u>	<u>TOTAL WATTS</u>	<u>CONTROL TYPE*</u>	<u>REMARKS</u>
<u>2</u>	<u>Wt. A20</u>	<u>2</u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>
<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>
<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>
<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>
<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>
<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>
<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>

\* M = Manual    T = Timer    P = Photocell    Enter schedule under Remarks.

CALCULATIONS

WATTS OF INTERIOR LIGHTING

Actual at time of survey           

Total installed           

WATTS OF EXTERIOR LIGHTING

Actual on at time of survey           

Total installed           

LIGHTING-EXTERIOR

LOCATION FH  
BLDG. NO. 161

#### 4.3 POWER USAGE SURVEY

##### 4.3.1 CRITICAL LOAD (Computer, Communications)

Describe: COMPUTER 15 EA

4.3.2 RECEPTACLES IN USE 96% PERCENT

##### 4.3.3 SMALL APPLIANCES IN USE (ENTER COUNT)

Water Cooler 1

Vending Machine           

Space Heater           

Coffee Pot 1

TV           

XEROX 1

Other:

Microphone           

Skunk           

Misc office eq           

POWER USAGE SURVEY



# 2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHL SURVEYED BY BIT DATE 9/30/92  
 BUILDING NUMBER 162 FUNCTION/USE TED Plans - Admin. Office  
 INFORMATION SOURCE (DWG. NO./PERSON) Ralph Sirtak

## GENERAL BUILDING DATA

BUILDING AGE: Renovated YEARS OLD

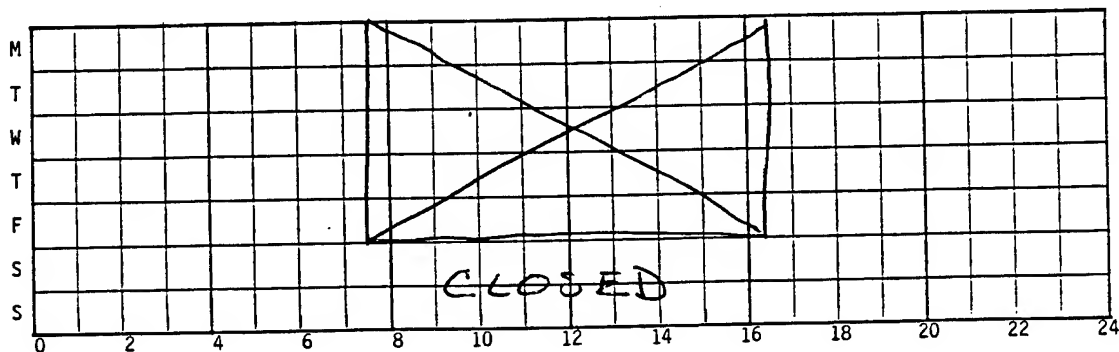
DUPLICATE BUILDING NOS: \_\_\_\_\_ TOTAL: \_\_\_\_\_

SIMILAR BUILDING NOS: \_\_\_\_\_ TOTAL: \_\_\_\_\_

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) ☐

NO. OF OCCUPANTS  
11-9/30/92 @ RLF  
4-10/1/92

Indicate (number and) duration of occupants each day



MISCELLANEOUS EQUIPMENT: See lists

ADDITIONAL COMMENTS, CRITICAL LOADS: \_\_\_\_\_

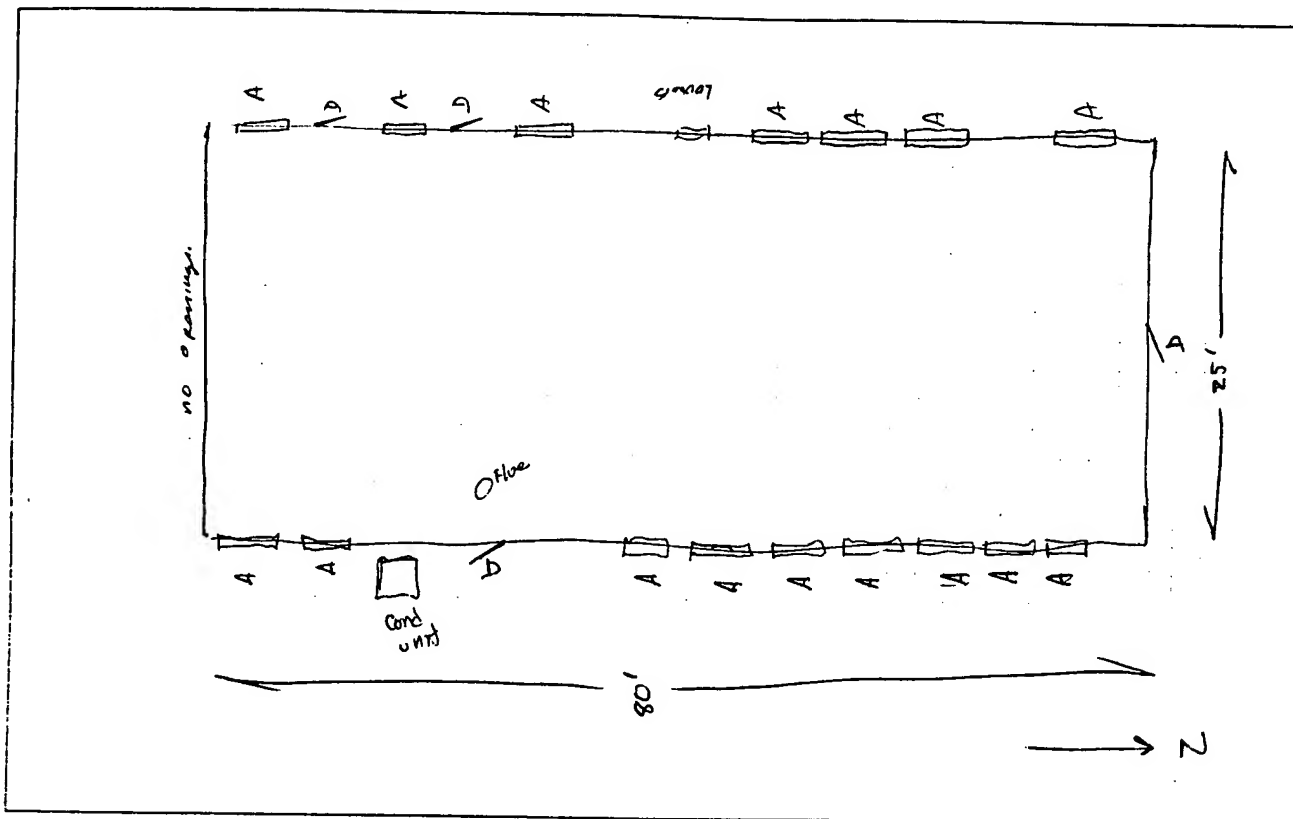
CRAWL SPACE: VENTILATED ☐ EXHAUSTED ☐ SOG

ATTIC: VENTILATED ☐ EXHAUSTED ☐

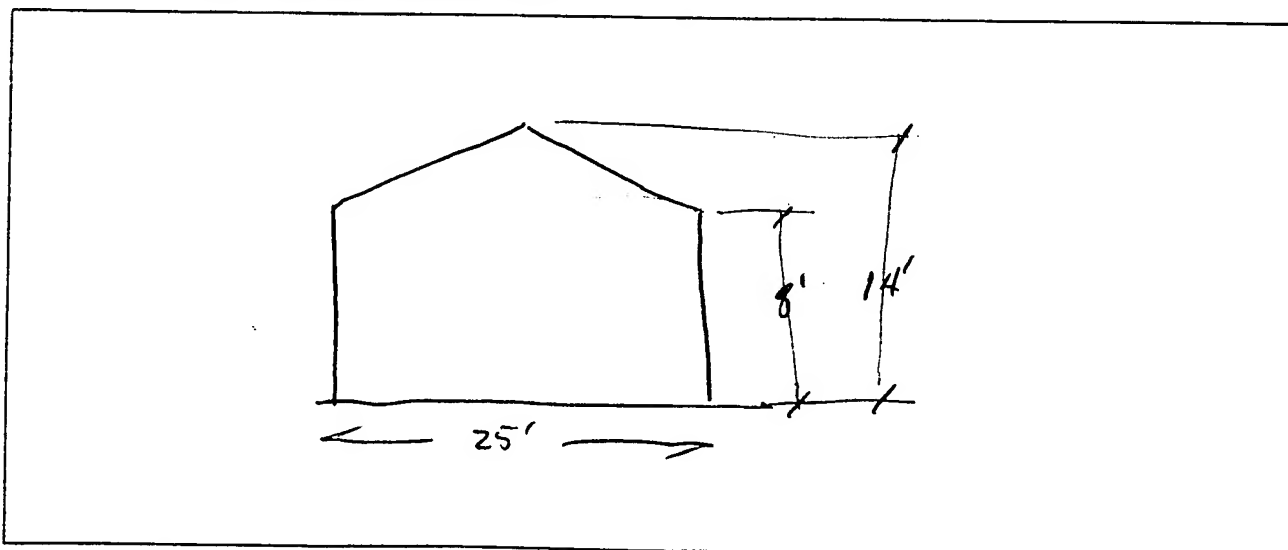
## 2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

LOCATION FHL  
BLDG. NO. 162

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



BUILDING FLOOR PLAN AND  
ELEVATION SKETCHES

## 2.3

BLDG. NO.

162

[illegible]

TOTAL AREA

U-VALUE

LEGEND:

**\*GLAZING:**

1 - ORDINARY  
2 -  $\frac{1}{4}$ " PLATE  
3 - HEAT ABSORBING  
4 - TINTED

**\*\*\*FRAME:**

W - WOOD  
M - METAL  
T - METAL/THERMAL BREAK

**\*\*\*SHADING:**

A - SOLAR FILM  
B - VEN BLIND  
C - STORM WINDOW  
D - DRAPES

**\*\*\*VISIBILITY:** \_\_\_\_\_

E - AWNING  
F - SOLAR SCREEN  
G - OVERHANG  
OTHER - SPECIFY

**WINDOW TYPES:**

1 - DOUBLE HUNG  
2 - SINGLE HUNG  
3 - SLIDING  
4 - CASEMENT  
5 - LOUVERED  
6 - FIXED GLASS

## 2.4 BUILDING ENVELOPE

LOCATION FALBLDG. NO. 162

## CONSTRUCTION

WALL

COLOR: D ☐M ☒L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
Plywood	1/2"	
Styrofoam	1"	
Moisture Barrier	-	
Gypsum Board	1/2"	
INSIDE FILM		

TOTAL

U-FACTOR

AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
SOG		
Limestone		
INSIDE FILM		

TOTAL

U-FACTOR

AREA

BUILDING SKIRTING MATERIAL

ROOF (INCL. CLG.)

TYPE: F ☐P ☐COLOR: D ☐M ☒L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
Comp. Ash Shingles		
Air Space	60" at peak	
Gypsum Board	1/2"	
INSIDE FILM		

ash FE of deck inside  
metalized

U-FACTOR

AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
Wood	1 5/8	
INSIDE FILM		

TOTAL

U-FACTOR

AREA

LOCATION FAL  
BLDG. NO. 162

3.1 HEATING EQUIPMENT

Heat Source:

☒ Furnace ☐ Steam Boiler ☐ Hot Water Boiler ☐ Heat Pump ☐ Supplied Steam or Hot Water (External Boiler Plant) ☐ Other \_\_\_\_\_

*New units.*

Capacity: 100,000 Btu/Hr or \_\_\_\_\_ Boiler HP or \_\_\_\_\_ Lbs/Hr Steam or \_\_\_\_\_ GPM Hot Water

Manufacturer: Lennox Model No.: G 1603/4-100-1

Boiler/Furnace Control: ☐ Manual ☒ Time Clock ☐ Demand ☐ EMCS ☐ O<sub>2</sub> Trim

Operating Temperature: \_\_\_\_\_ °F Operating Pressure: \_\_\_\_\_ PSI  
*6AM-6PM 7d/wk - 7day time clock - no stops on S/S*

Fuel: ☐ Nat. Gas Only ☐ Nat. Gas/ \_\_\_\_\_  
☒ Other (Specify) Propane

Draft: ☐ Forced  
☐ Induced

Burner: Mfg. Sams Model No. \_\_\_\_\_ Metering Equipment: ☐ Yes ☐ No

Operating Schedule: Weekdays: From 6am To 6pm Hr/Day 12  
*150°F*  
*120°F*  
*90°F*  
Weekdays & Holidays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day 12  
Operating Season: From \_\_\_\_\_ Mon/Day, to \_\_\_\_\_ Mon/Day

Flue Gas Temperature: \_\_\_\_\_ °F Receiver Tank Conditions: \_\_\_\_\_ PSIG \_\_\_\_\_ °F

If supplied Steam or Hot Water: Steam Pressure \_\_\_\_\_ PSI Hot Water Supply Temp. \_\_\_\_\_ °F Hot Water Return Temp. \_\_\_\_\_ °F

Insulation: (1) Boiler New (2) Other (Specify) L.A.  
Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup> Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>  
None ☐ Temp. \_\_\_\_\_ °F None ☐ Temp. \_\_\_\_\_ °F

Pump: No. of Pumps \_\_\_\_\_ V/PH/FLA \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_ RPM \_\_\_\_\_  
HW Pump Starter: ☐ HOA ☐ Reset P/B ☐ S/S Push Button Interlocked with Boiler? ☐ Yes ☐ No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. \_\_\_\_\_ Model \_\_\_\_\_

Condensate Pumps/Hot Water Pumps: Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_

Boiler/Furnace Condition: \_\_\_\_\_

Describe \_\_\_\_\_

Occupant Discomfort (Evaluate): no significant problems

HEATING EQUIPMENT

## 3.2 COOLING EQUIPMENT

LOCATION FHL  
BLDG. NO. 162PackageCOMPRESSOR(S)/CHILLER

Manufacturer Lennox  
 Model No. \_\_\_\_\_  
 Size \_\_\_\_\_  
 Refrigerant R22  
 Motor HP (if available) \_\_\_\_\_  
 Motor Voltage 208/230 3φ  
 Motor FLA 21.5  
 Measured Amps 135

CONDENSER/CONDENSING UNIT

Water Cooled \_\_\_\_\_  
 Air Cooled ✓  
 Evaporative \_\_\_\_\_  
 Manufacturer Lennox  
 Model No. HS 17-813-34  
 Size \_\_\_\_\_  
 Type of Fan propeller  
 Fan Motor HP 3/4  
 Fan Motor Voltage 230V 1φ  
 Fan Motor FLA 3.5  
 Measured Amps \_\_\_\_\_

COOLING TOWER

Gravity \_\_\_\_\_  
 Mech. Draft \_\_\_\_\_  
 Manufacturer \_\_\_\_\_  
 Model No. \_\_\_\_\_  
 Type of Fan \_\_\_\_\_  
 Fan RPM \_\_\_\_\_  
 Fan Motor HP \_\_\_\_\_  
 Fan Motor Voltage \_\_\_\_\_  
 Fan Motor FLA \_\_\_\_\_  
 Measured Amps \_\_\_\_\_

CHILLED WATER PUMPS (If more than one, how many  
operative during normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
 Model No. \_\_\_\_\_  
 Capacity Gals. \_\_\_\_\_  
 Head, Ft. \_\_\_\_\_  
 Motor HP \_\_\_\_\_  
 Motor Voltage \_\_\_\_\_  
 Motor FLA \_\_\_\_\_  
 Measured Amps \_\_\_\_\_

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
 Model No. \_\_\_\_\_  
 Capacity, Gals. \_\_\_\_\_  
 Head, Ft. \_\_\_\_\_  
 Motor HP \_\_\_\_\_  
 Motor Voltage \_\_\_\_\_  
 Motor FLA \_\_\_\_\_  
 Measured Amps \_\_\_\_\_

208V on  
 A 21A Cond.  
 B 23A unit.  
 C 20A

REMARKS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

COOLING EQUIPMENT

LOCATION FHC  
BLDG. NO. 162

see data on WAF / chng acc.

Unit/Zone

Manufacturer

Model No.

Type

RPM of Fan

Motor HP

Motor Volts

Motor FLA

Measured Amps

CFM (from Plans)

## Notes

Indicate capacities where found:

## COOLING

DX Lennox C17-95/135V-1

 $H_2O$ 

OTHER

## HEATING

**GAS**

 $H_2O$ 

ELEC

OTHER

## HUMIDIFICATION

ELEC

## STEAM

$$\text{H}_2\text{O}$$

OTHER

AUX/MISC OTHER

## Type

### Condition

Manometer Reading 1/

1/ Record only if manometer is installed on the unit.

3.4

DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT*None*LOCATION FAL  
BLDG. NO. 162

a. Is System Supported from (check one):

☐

Central Plant

☐

One System per Building

☐

Several Small Systems per Building

b. Domestic Hot Water Temperatures provided:

°F

°F

c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:

---



---



---

d. Is Piping System Insulated and Condition:

e. Is Hot Water Circulated?

1) Condition of circulator

3) Is aquastat provided?

2) Circulator capacity

4) Aquastat temperature setting

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

a. Location

b. Areas Served

c. Manufacturer and Model

d. Energy (Oil, Gas, Electric, Coal, Etc.)

e. Type Heaters &amp; Quantities:

1) Storage

2) Instantaneous

3) Semi-Instantaneous

f. Heater Size and Storage Capacity

g. Heating Capacity

h. Type Controls (Air, Steam, Electric)

i. When Installed &amp; Condition

j. Heater Temperature Setting

k. Average Water Maintained Temperature

l. Temperature Differential (j) - (k)

m. Is Hot Water Supply Adequate:

n. Insulation Thickness

Type

o. Insulation Material

DOMESTIC HOT WATER SYSTEM/EQUIPMENT

3.4



LOCATION FHL  
BLDG. NO. 162

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

CONTROL SYSTEM:

CONTROLLERS:

☒

ELECTRIC

☐

PNEUMATIC

☐

ELECTRONIC

OPERATION:

☒ \*

MANUAL

☐

TIME CLOCK

☐

CONTINUOUS

☐

EMCS

☐

DEMAND

MFG \_\_\_\_\_

MODEL \_\_\_\_\_

LOCATION \_\_\_\_\_

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

Thermostat w/ Heat/Cool/Fan only

6 Hr timer switch installed to operate HVAC

LOCATION FHL  
BLDG. NO. 162

[illegible]

SPECIAL EQUIPMENT

LIGHTING 1 3 34 2/ 6 LOCATION BLDG.

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/ DAY ON	DAYS/ YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT <sup>2</sup> )	WATTS PER SQ. FT. (W/FT <sup>2</sup> )	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS	FINISH	WINDOW CODE	REMARKS (LIGHTS/SWITCH)
4 ①	S	F 34	2 34	3							50					
4 ②				2							40					
4 ③				3												
4 ④				2												
4 ⑤				2												
4 ⑥				2												
4 ⑦				2												
8		F 34	2 34	1												
8		F 34	1 34	1												
⑧			2 34	2												
⑨		F 34	2 34	2												
TOTAL BUILDING LIGHTING ENERGY																

LIGHTING LEGEND:

- Fixture Types: Recessed = R, Suspended = S, Ventilated = V, Pole Mounted = PM, Other--Describe
- Lamp Types: Incandescent = I, Fluorescent = F, Sodium Vapor = SV, Mercury Vapor = MV, Metal Halide = MH, Other--Describe
- Window Code: If there are windows, indicate: Curtains = C, Shades = S, No Shading = NS
- Tasks Code: 1 = Corridors, 2 = Kitchens, 3 = Dining, 4 = Offices-general (ledgers only), 5 = Offices-bookkeeping, 6 = Offices-drafting, 7 = Laundry, 8 = Toilets, 9 = Sleeping quarters, 10 = Supply rooms, 11 = Repair shops, 12 = Storage room, 13 = Retail store (PX, commissary), Other (describe on audit form), E = Exterior

LOCATION FHL  
BLDG. NO. 162

4.2 LIGHTING (continued)

4.2.2 Exterior Lighting

<u>ACTUAL NO. OF FIXTURES</u>	<u>TYPE OF FIXTURE</u>	<u>NO. OF FIXTURES IN USE</u>	<u>WATTS/ FIXTURE</u>	<u>TOTAL WATTS</u>	<u>CONTROL TYPE*</u>	<u>REMARKS</u>
<u>3</u>	<u>Surface LPS</u>	<u>3</u>	<u>75</u>			

\* M = Manual    T = Timer    P = Photocell    Enter schedule under Remarks.

CALCULATIONS

WATTS OF INTERIOR LIGHTING

Actual at time of survey \_\_\_\_\_

Total installed \_\_\_\_\_

WATTS OF EXTERIOR LIGHTING

Actual on at time of survey \_\_\_\_\_

Total installed \_\_\_\_\_

LIGHTING-EXTERIOR

## 2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION EH SURVEYED BY RJB DATE 10/92

BUILDING NUMBER T-168 FUNCTION/USE STORAGE

INFORMATION SOURCE (DWG. NO./PERSON) VISCAL

### GENERAL BUILDING DATA

BUILDING AGE: \_\_\_\_\_ YEARS

DUPLICATE BUILDING NOS: \_\_\_\_\_

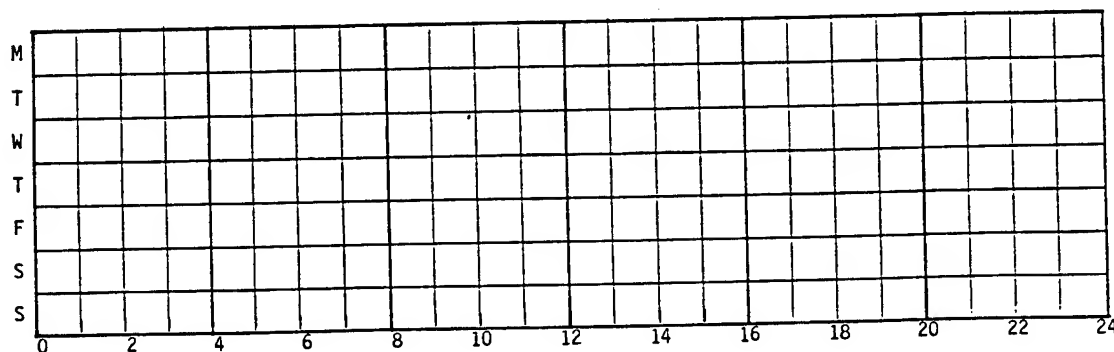
TOTAL:

SIMILAR BUILDING NOS: \_\_\_\_\_

TOTAL:

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) ☐ NO. OF OCCUPANTS 0

Indicate (number and) duration of occupants each day *1.11-*



MISCELLANEOUS EQUIPMENT: \_\_\_\_\_

ADDITIONAL COMMENTS, CRITICAL LOADS: NO HEATING OR COOLING

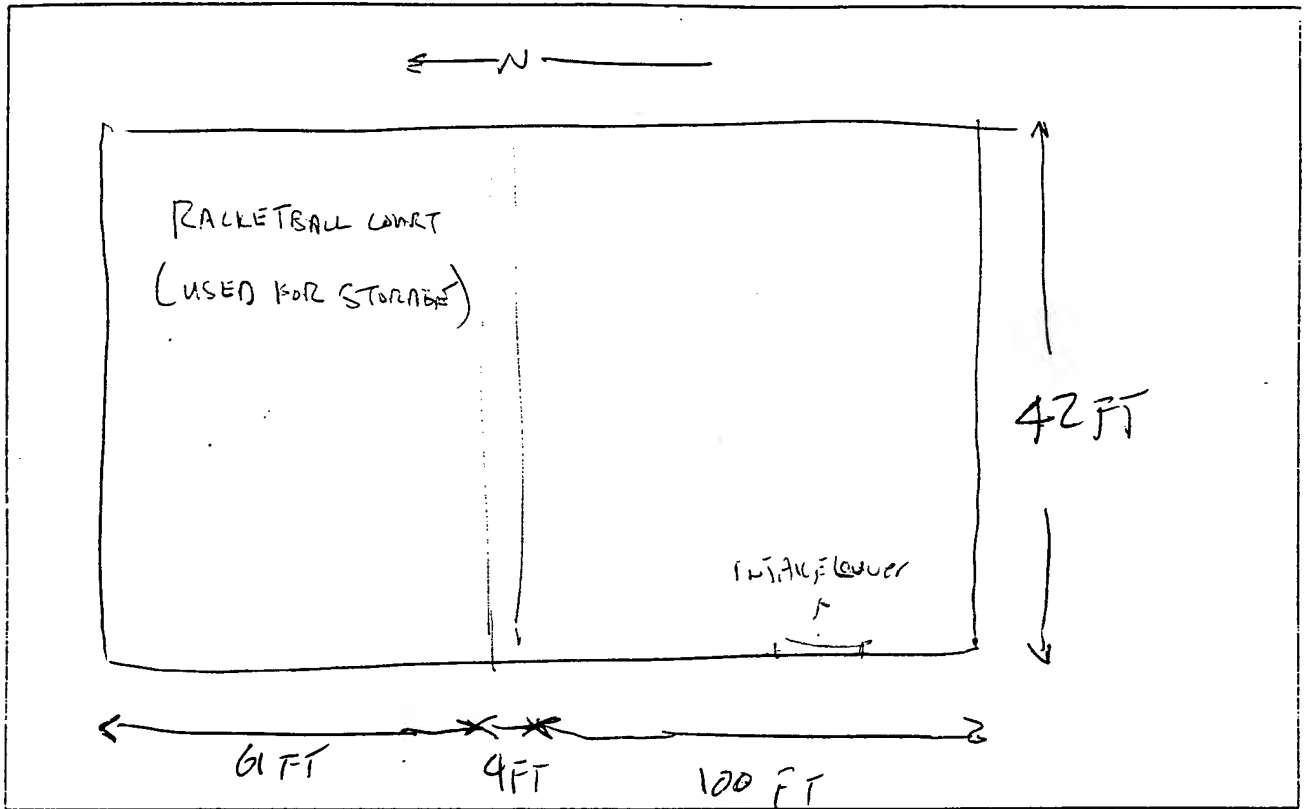
CRAWL SPACE: VENTILATED ☐ EXHAUSTED ☐

ATTIC: VENTILATED ☐ EXHAUSTED ☐

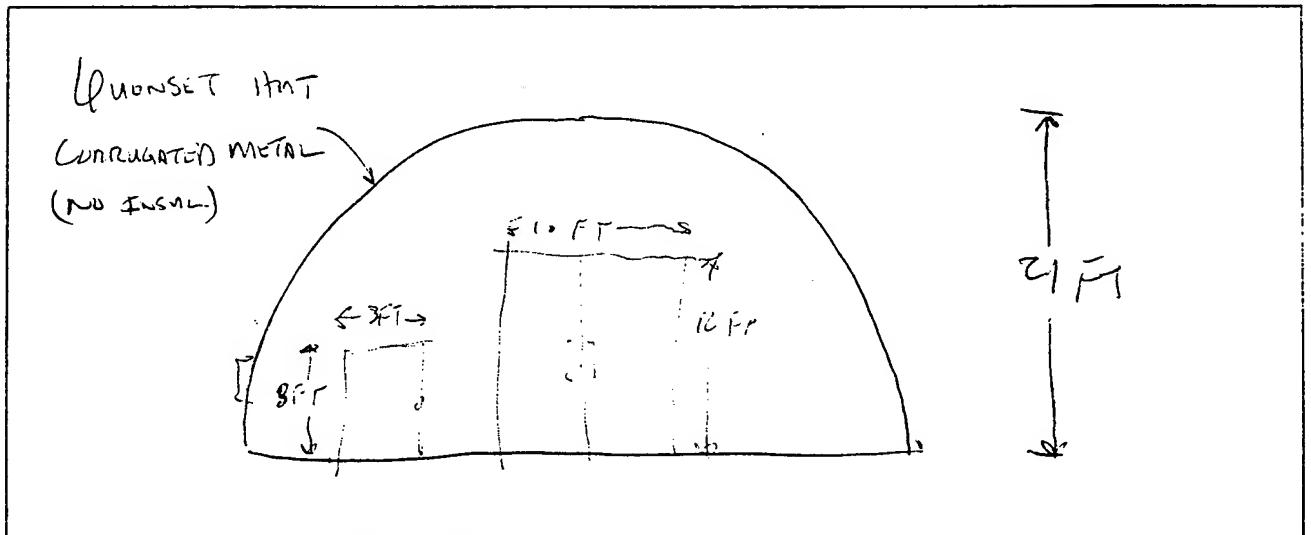
ARCHITECTURE--MISCELLANEOUS

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



	TOTAL AREA	U-VALUE

**LEGEND:**

WINDOW TYPES:	
1 - DOUBLE HUNG	4 - CASEMENT
2 - SINGLE HUNG	5 - LOUVERED
3 - SLIDING	6 - FIXED GLASS

\*\*\*\*VISIBILITY:\_\_\_\_\_  
 E - AWNING  
 F - SOLAR SCREEN  
 G - OVERHANG  
 OTHER - SPECIFY \_\_\_\_\_

**\*\*SHADING:**

A -	SOLAR FILM
B -	VEN BLIND
C -	STORM WINDOW
D -	DRAPES

W - WOOD  
M - METAL  
T - METAL/THERMAL BREAK

\*GLAZING:

1 -	ORDINARY
2 -	1" PLATE
3 -	HEAT ABSORBING
4 -	TINTED

#### 4.2.1 Interior Lighting

## LIGHTING

**LOCATION**

五

**BLDG.**

168

[illegible]

### LIGHTING LEGEND:

**Lamp Types:**

Incandescent = I  
Fluorescent = F  
Sodium Vapor = SV  
Mercury Vapor = MV  
Metal Halide = MH  
Other--Describe

**Window Code:**

**If there are windows, indicate:**

Curtains = C  
Shades = S  
No Shading = NS

**Tasks Code:**

1 = Corridors  
2 = Kitchens  
3 = Dining  
4 = Offices-general  
5 = Offices-bookkeeping  
(ledgers only)  
6 = Offices-drafting  
7 = Laundry  
8 = Toilets  
9 = Sleeping quarters  
10 = Supply rooms  
11 = Repair shops  
12 = Storage room  
13 = Retail store  
(PX, commissary)  
Other (describe on  
audit form)  
E = Exterior

**Fixture Types:**

Recessed = R  
Suspended = S  
Ventilated = V  
Pole Mounted = PM  
Other--Describe

LIGHTING  
4.2.1

### 4.2.1



## 2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHL SURVEYED BY EJB DATE OCT. '92  
 BUILDING NUMBER 177 FUNCTION/USE TECH LIBRARY  
 INFORMATION SOURCE (DWG. NO./PERSON) VISUAL

### GENERAL BUILDING DATA

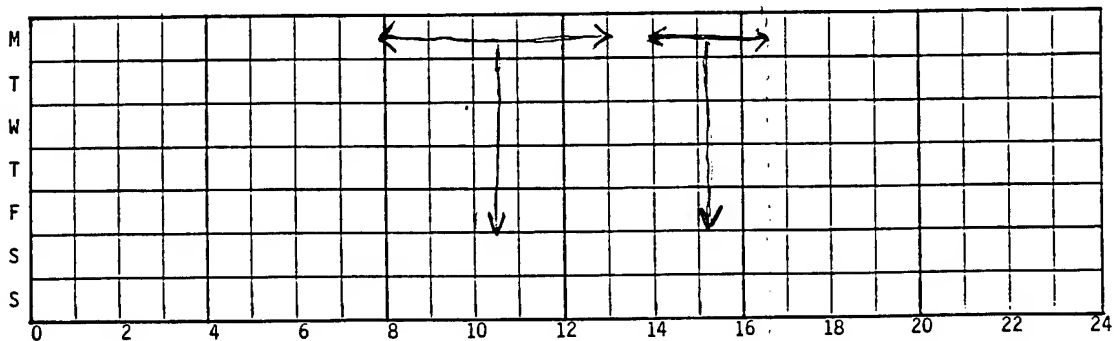
BUILDING AGE: \_\_\_\_\_ YEARS

DUPLICATE BUILDING NOS: \_\_\_\_\_ TOTAL: \_\_\_\_\_

SIMILAR BUILDING NOS: \_\_\_\_\_ TOTAL: \_\_\_\_\_

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) ☐ NO. OF OCCUPANTS 4

Indicate (number and) duration of occupants each day



MISCELLANEOUS EQUIPMENT: 6 computers  
2 microfiche  
MISC OFFICE SUPPLIES

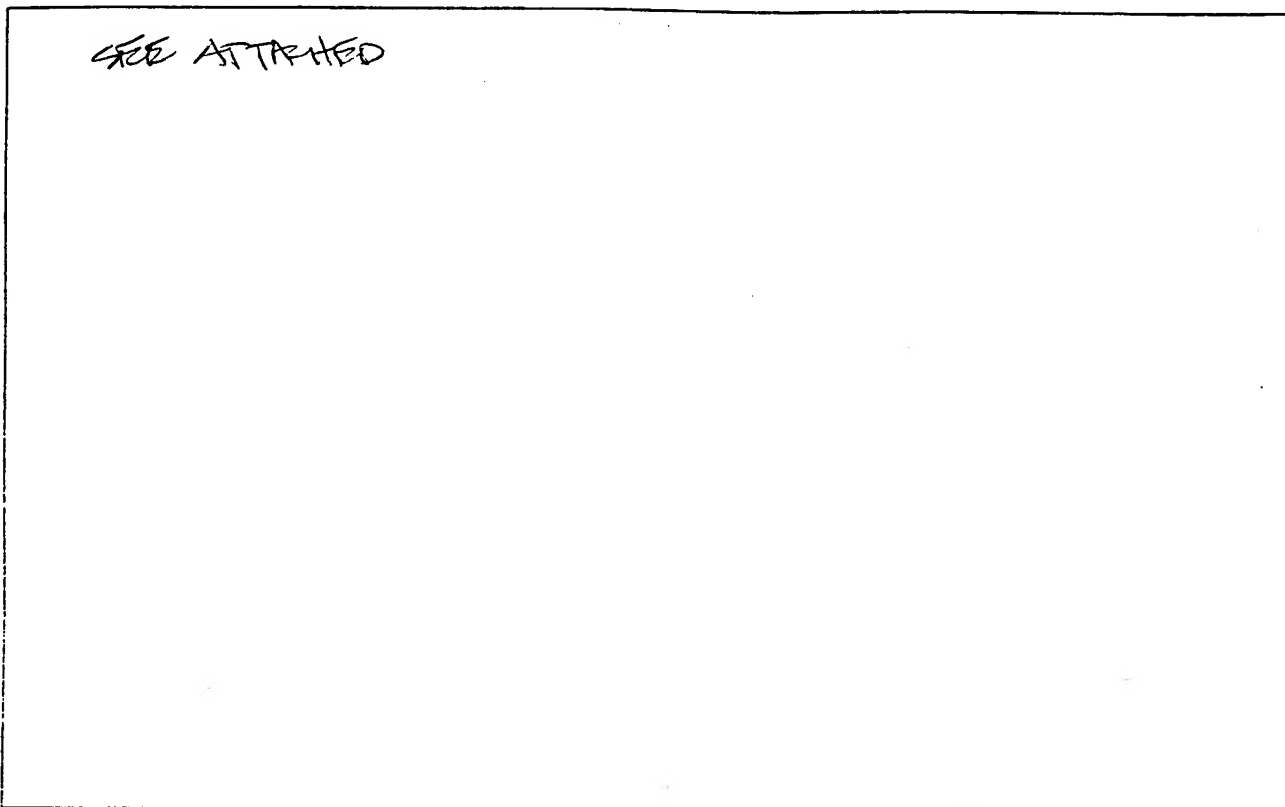
ADDITIONAL COMMENTS, CRITICAL LOADS: EVERYTHING IS AUTOMATED EXCEPT THE LIGHTS

CRAWL SPACE: VENTILATED ☐ EXHAUSTED ☐  
 ATTIC: VENTILATED ☐ EXHAUSTED ☐ NONE

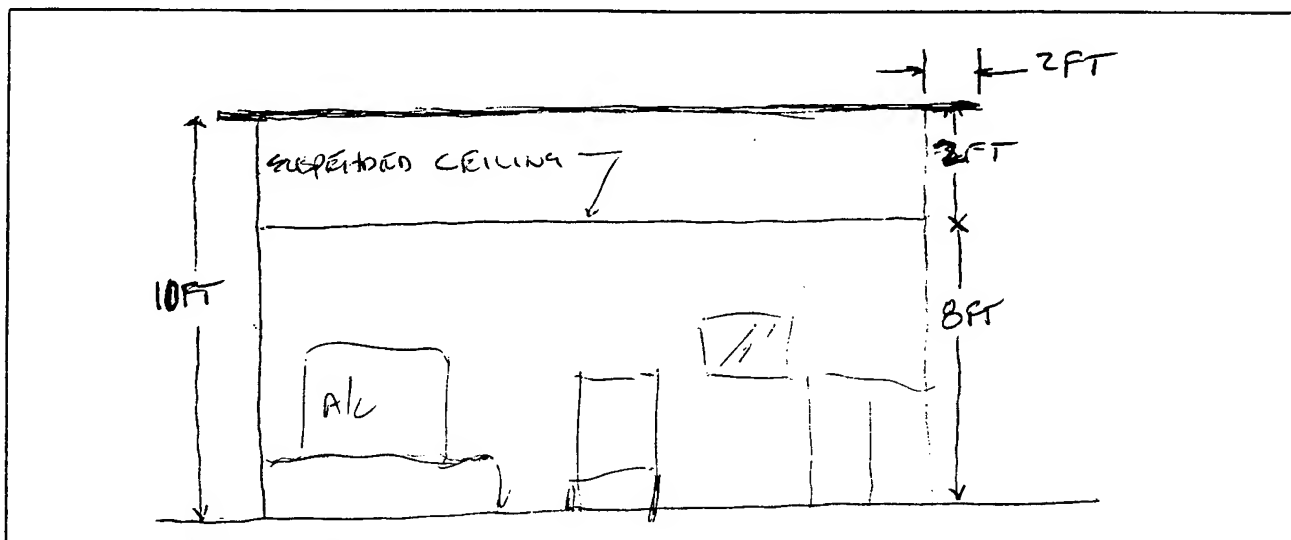
2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

LOCATION FHL  
BLDG. NO. 177

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



BUILDING FLOOR PLAN AND  
ELEVATION SKETCHES



## 2.3

BLDG. NO.

177

[illegible]

TOTAL AREA

U-VALUE

**LEGEND:**

**\*GLAZING:**

**\*\*FRAME:**

**\*\*\*SHADING:**

**\*\*\*VISIBILITY:**

**WINDOW TYPES:**

1	-	ORDINARY
2	-	1" PLATE
3	-	HEAT ABSORBING
4	-	TINTED

W - WOOD  
M - METAL  
T - METAL/THERMAL BREAK

A - SOLAR FILM  
B - VEN BLIND  
C - STORM WINDOW  
D - DRAPES

E - AWNING  
F - SOLAR SCREEN  
G - OVERHANG  
OTHER - SPECIFY

1 - DOUBLE HUNG	4 - CASEMENT
2 - SINGLE HUNG	5 - LOUVERED
3 - SLIDING	6 - FIXED GLASS

## ARCHITECTURAL WINDOWS & DOORS

## 2.4 BUILDING ENVELOPE

LOCATION FAL  
BLDG. NO. 177

## CONSTRUCTION

WALL  COLOR: D ☐ M ☐ L ☒

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.25
Cork Board	2	2.18
INSIDE FILM		0.68
TOTAL		3.11

U-FACTOR  0.32 AREA FLOOR  S.O.G.

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA BUILDING SKIRTING MATERIAL 

## ROOF (INCL. CLG.)

TYPE: F ☐ P ☐  
COLOR: D ☐ M ☐ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.25
Built up		0.33
Asph/Flt	36	0.61
Insulation	R-19	19.00
Door Duct		0.77
Exterior C.		
INSIDE FILM		
TOTAL		20.96

U-FACTOR  0.05 AREA DOOR 

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
Wood	2	
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

### 3.2 COOLING EQUIPMENT

LOCATION FHL  
BLDG. NO. 177

PACKAGED ROOFTOP COOLING/LPG HEATING UNIT (MOUNTED ON GROUND)

#### COMPRESSOR(S)/CHILLER

Manufacturer TRANS  
Model No. YCH120A3H0AA  
Size \_\_\_\_\_  
Refrigerant R-22  
Motor HP (if available) \_\_\_\_\_  
Motor Voltage 208  
Motor FLA 2 @ 19A  
Measured Amps 23A - PKG. UNIT TOTAL

#### COOLING TOWER

Gravity \_\_\_\_\_  
Mech. Draft \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Type of Fan \_\_\_\_\_  
Fan RPM \_\_\_\_\_  
Fan Motor HP \_\_\_\_\_  
Fan Motor Voltage \_\_\_\_\_  
Fan Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

#### CONDENSER/CONDENSING UNIT

Water Cooled \_\_\_\_\_  
Air Cooled ✓  
Evaporative \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Size \_\_\_\_\_  
Type of Fan \_\_\_\_\_  
Fan Motor HP \_\_\_\_\_  
Fan Motor Voltage 208V/1φ  
Fan Motor FLA 5.5  
Measured Amps \_\_\_\_\_

#### COND. EVAP

208V/1φ  
7.5

#### CHILLED WATER PUMPS (If more than one, how many operative during normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

#### CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity, Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

REMARKS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

COOLING EQUIPMENT

3.4

DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

(Holt)

LOCATION

FAL

BLDG. NO.

177

a. Is System Supported from (check one):

☐

Central Plant

☐

One System per Building

☐

Several Small Systems per Building

b. Domestic Hot Water Temperatures provided:

°F

°F

c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:


d. Is Piping System Insulated and Condition:

e. Is Hot Water Circulated?

1) Condition of circulator

3) Is aquastat provided?

2) Circulator capacity

4) Aquastat temperature setting

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

a. Location

b. Areas Served

c. Manufacturer and Model

d. Energy (Oil, Gas, Electric, Coal, Etc.)

e. Type Heaters &amp; Quantities:

1) Storage

2) Instantaneous

3) Semi-Instantaneous

f. Heater Size and Storage Capacity

g. Heating Capacity

h. Type Controls (Air, Steam, Electric)

i. When Installed &amp; Condition

j. Heater Temperature Setting

k. Average Water Maintained Temperature

l. Temperature Differential (j) - (k)

m. Is Hot Water Supply Adequate:

n. Insulation Thickness

Type

o. Insulation Material

DOMESTIC HOT WATER SYSTEM/EQUIPMENT

3.4

LOCATION FAL  
BLDG. NO. 177

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

CONTROL SYSTEM:

CONTROLLERS:

☐

ELECTRIC

☐

PNEUMATIC

☐

ELECTRONIC

OPERATION:

☐

MANUAL

☐

TIME CLOCK

☐

CONTINUOUS

☐

EMCS

☐

DEMAND

MFG

York

MODEL

LOCATION

SEE SKETCH

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

OFF/HEAT/AIR COOL

CONTROL/MISCELLANEOUS PROCESS/SKETCHES



## LIGHTING

[illegible]

LIGHTING LEGEND:

**Lamp Types:**

Incandescent = I  
Fluorescent = F  
Sodium Vapor = SV  
Mercury Vapor = MV  
Metal Halide = MH  
Other--Describe

**Window Code:**

If there are windows, indicate:

Curtains = C  
Shades = S  
No Shading = NS

**Tasks Code:**

1 = Corridors  
2 = Kitchens  
3 = Dining  
4 = Offices-general  
5 = Offices-bookkeeping (ledgers only)  
6 = Offices-drafting  
7 = Laundry  
8 = Toilets  
9 = Sleeping quarters  
10 = Supply rooms  
11 = Repair shops  
12 = Storage room  
13 = Retail store (PX, commissary)  
Other (describe on audit form)  
E = Exterior

### Fixture Types:

Recessed = R  
Suspended = S  
Ventilated = V  
Pole Mounted = PM  
Other--Describe

LOCATION FAL  
 BLDG. NO. 177

4.2 LIGHTING (continued)

4.2.2 Exterior Lighting

ACTUAL NO. OF FIXTURES	TYPE OF FIXTURE	NO. OF FIXTURES IN USE	WATTS/ FIXTURE	TOTAL WATTS	CONTROL TYPE*	REMARKS
<u>4</u>	<u>HAND</u>					

\* M = Manual    T = Timer    P = Photocell    Enter schedule under Remarks.

CALCULATIONS

WATTS OF INTERIOR LIGHTING

Actual at time of survey \_\_\_\_\_

Total installed \_\_\_\_\_

WATTS OF EXTERIOR LIGHTING

Actual on at time of survey \_\_\_\_\_

Total installed \_\_\_\_\_

LOCATION FHL  
BLDG. NO. 177

#### 4.3 POWER USAGE SURVEY

##### 4.3.1 CRITICAL LOAD (Computer, Communications)

Describe: 6 computers  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

##### 4.3.2 RECEPTACLES IN USE \_\_\_\_\_ PERCENT

##### 4.3.3 SMALL APPLIANCES IN USE (ENTER COUNT)

Water Cooler 1

Vending Machine \_\_\_\_\_

Space Heater \_\_\_\_\_

Coffee Pot \_\_\_\_\_

TV \_\_\_\_\_

XEROX 1

Other:

1 shredder \_\_\_\_\_

2 microfilm \_\_\_\_\_

Misc office sup \_\_\_\_\_

\_\_\_\_\_

POWER USAGE SURVEY

4.3

## 2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHL SURVEYED BY B/H DATE 9/30/92  
 BUILDING NUMBER 178 FUNCTION/USE CHILD DEVELOPMENT CENTER  
 INFORMATION SOURCE (DWG. NO./PERSON) CDC Director

### GENERAL BUILDING DATA

BUILDING AGE: 1939 YEARS Remodel

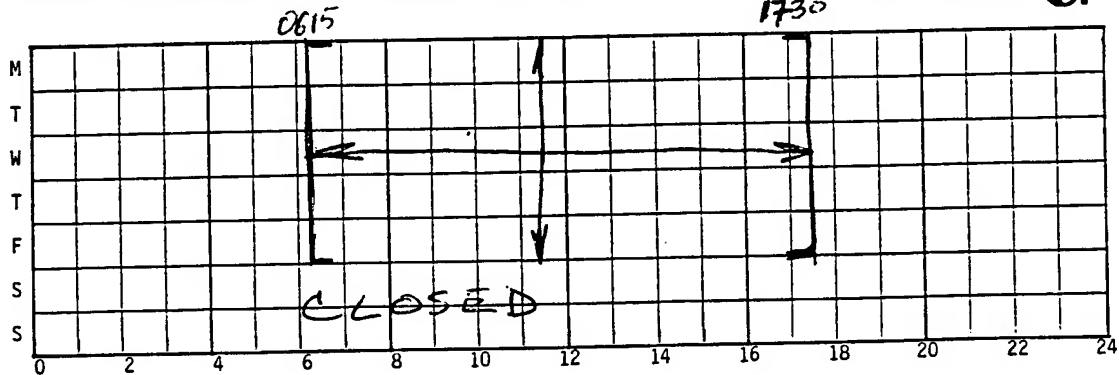
DUPLICATE BUILDING NOS: \_\_\_\_\_ TOTAL: \_\_\_\_\_

SIMILAR BUILDING NOS: \_\_\_\_\_ TOTAL: \_\_\_\_\_

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) ☐

Indicate (number and) duration of occupants each day

NO. OF OCCUPANTS  
 STAFF = 12  
 CHILDREN = 31



MISCELLANEOUS EQUIPMENT: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

ADDITIONAL COMMENTS, CRITICAL LOADS: No SALK program.

Cooling/Heating difficult to control - not balanced properly - kitchen is a problem.

CRAWL SPACE: VENTILATED ☐ EXHAUSTED ☐ SOG

ATTIC: VENTILATED ☐ EXHAUSTED ☐

LOCATION FtL

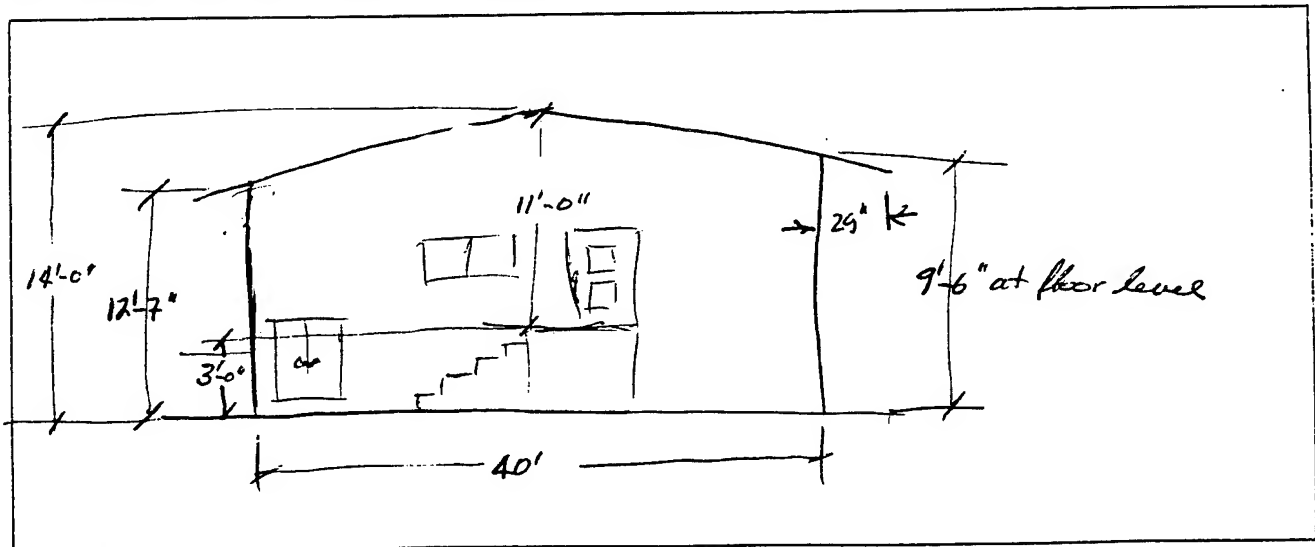
BLDG. NO. 178

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)

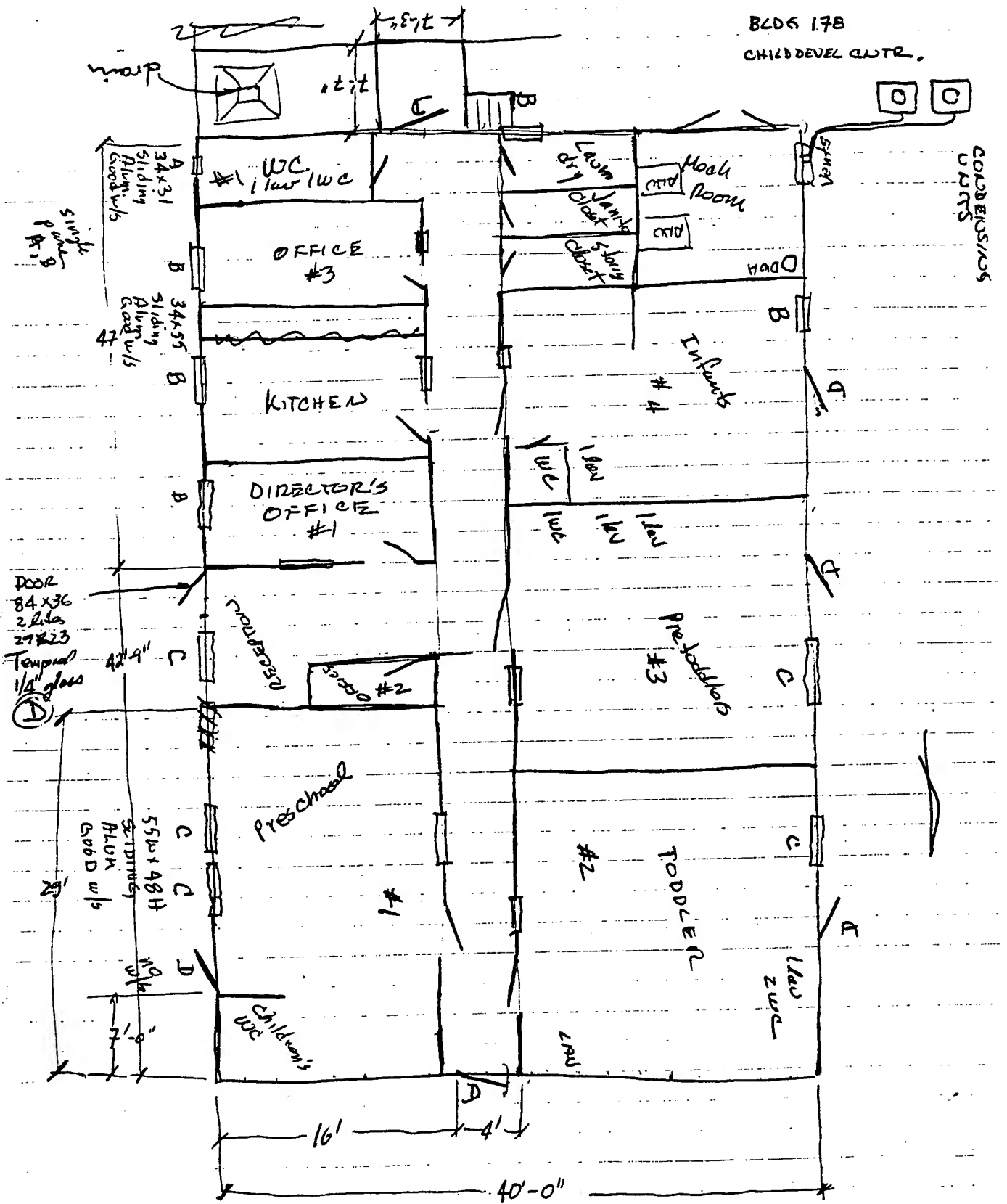
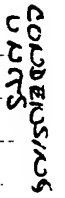
*See attached sketch*

SOUTH ELEVATION (Show floor to ceiling elevations)



BUILDING FLOOR PLAN AND  
ELEVATION SKETCHES

CHILD DEVEL CNTR.



## 2.3

BLDG. NO. 178

	TOTAL AREA	U-VALUE
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100		

*GLAZING:	**FRAME:	***SHADING:	****VISIBILITY:	*****WINDOW TYPES:
1 - ORDINARY	W - WOOD	A - SOLAR FILM	E - AWNING	1 - DOUBLE HUNG
2 - 1" PLATE	M - METAL	B - VEN BLIND	F - SOLAR SCREEN	2 - SINGLE HUNG
3 - HEAT ABSORBING	T - METAL/THERMAL BREAK	C - STORM WINDOW	G - OVERHANG	3 - SLIDING
4 - TINTED		D - DRAPES	OTHER - SPECIFY	4 - CASEMENT
				5 - LOUVERED
				6 - FIXED GLASS

## 2.3

# 2.4 BUILDING ENVELOPE

LOCATION FHL

BLDG. NO. 178

## CONSTRUCTION

WALL  COLOR: D ☐ M ☐ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
CONCRETE BLOCK	8"	
—		
INSIDE FILM		

TOTAL

U-FACTOR

AREA

FLOOR

SOG

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
SOG		
Lino-lam		
Some Carpet		
INSIDE FILM		

TOTAL

U-FACTOR

AREA

BUILDING SKIRTING MATERIAL

ROOF (INCL. CLG.)

TYPE: F ☐ P ☐

COLOR: D ☐ M ☐ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
BUR		
FG INS.	—	19
Sus. Coe 2545	3/4"	
Air ~22"		
INSIDE FILM		

TOTAL

U-FACTOR

AREA

DOOR

WOOD

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
WOOD	1 5/8"	
GLASS	1/4"	
INSIDE FILM		

TOTAL

U-FACTOR

AREA

BUILDING ENVELOPE

2.4



3.1 HEATING EQUIPMENT

New units

LOCATION FHL

BLDG. NO. 178

Heat Source:

☒ Furnace ☐ Steam Boiler ☐ Hot Water Boiler ☐ Heat Pump ☐ Supplied Steam or Hot Water (External Boiler Plant) ☐ Other \_\_\_\_\_

Capacity: 100,000 Btu/Hr or \_\_\_\_\_ Boiler HP or \_\_\_\_\_ Lbs/Hr Steam or \_\_\_\_\_ GPM Hot Water

Manufacturer: Lennox Conservator III Model No.: G16Q5-100-7

Boiler/Furnace Control: ☐ Manual ☐ Time Clock ☒ Demand ☐ EMCS ☐ O<sub>2</sub> Trim

Operating Temperature: 150°F °F Operating Pressure: 1 PSI

Fuel: ☐ Nat. Gas Only ☐ Nat. Gas/ \_\_\_\_\_ Draft: ☐ Forced ☒ Induced  
☒ Other (Specify) PROPANE

Burner: Mfg. Integrel Model No. \_\_\_\_\_ Metering Equipment: ☐ Yes ☒ No

Operating Schedule: Weekdays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day  
Weekdays & Holidays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day  
Operating Season: From \_\_\_\_\_ Mon/Day, to \_\_\_\_\_ Mon/Day  
Set 200 } of  
120 }  
90 }

Flue Gas Temperature: \_\_\_\_\_ °F Receiver Tank Conditions: Has flue damper integral to unit. PSIG \_\_\_\_\_ °F

If supplied Steam or Hot Water: Steam Pressure \_\_\_\_\_ PSI Hot Water Supply Temp. \_\_\_\_\_ °F Hot Water Return Temp. \_\_\_\_\_ °F

Insulation: (1) Boiler (2) Other (Specify) All ducts  
Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup> Poor ☐ Area insulated FT<sup>2</sup>  
None ☐ Temp. \_\_\_\_\_ °F None ☐ Temp. \_\_\_\_\_ °F

Pump: No. of Pumps \_\_\_\_\_ V/PH/FLA \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Mfg. none Model \_\_\_\_\_ HP \_\_\_\_\_ RPM \_\_\_\_\_  
HW Pump Starter: ☐ HOA ☐ Reset P/B ☐ S/S Push Button Interlocked with Boiler? ☐ Yes ☒ No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. \_\_\_\_\_ Model \_\_\_\_\_

Condensate Pumps/Hot Water Pumps: Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_

Boiler/Furnace Condition: \_\_\_\_\_

Describe \_\_\_\_\_

Occupant Discomfort (Evaluate): Some zones not balanced properly -  
occupants have had FE shut off & adjust  
on occasion - no serious complaints at  
this time.

HEATING EQUIPMENT

# 3.2 COOLING EQUIPMENT

LOCATION FAL  
BLDG. NO. 178

*- 2, 1 for each AHU/WAF*

## COMPRESSOR(S)/CHILLER

Manufacturer Lennox in Cond Unit  
Model No. see below  
Size \_\_\_\_\_  
Refrigerant R22  
Motor HP (if available) NA  
Motor Voltage 208/230 1φ  
Motor FLA 135  
~~FLA~~ RLA 27.6  
Measured Amps 1φ

## COOLING TOWER

Gravity \_\_\_\_\_  
Mech. Draft \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Type of Fan \_\_\_\_\_  
Fan RPM \_\_\_\_\_  
Fan Motor HP \_\_\_\_\_  
Fan Motor Voltage \_\_\_\_\_  
Fan Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

## CONDENSER/CONDENSING UNIT

Water Cooled \_\_\_\_\_  
Air Cooled ✓  
Evaporative \_\_\_\_\_  
Manufacturer Lennox  
Model No. HS16-651U-8P  
Size \_\_\_\_\_  
Type of Fan \_\_\_\_\_  
Fan Motor HP 1/4  
Fan Motor Voltage 208/230  
Fan Motor FLA 2.2 A  
Measured Amps \_\_\_\_\_

## CHILLED WATER PUMPS (If more than one, how many operative during normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

## CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity, Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

Evaporator  
Lennox C14-65-1FF  
R22  
one on top  
of each AHU/FURNACE

REMARKS: LOAD AT COND. UNIT.  
120V 1φ 19 Amps

### 3.3 AIR HANDLING EQUIPMENT

#### FANS

Type	<u>Package w/ AHU</u>	<u>Exhaust</u>	
Unit/Zone	#	# <u>Kitchen</u>	#
Manufacturer		<u>Sunair - Birmingham, AL</u>	
Model No.		<u>4TEC WH 4B</u>	
Type		<u>Kitchen</u>	
RPM of Fan			
Motor HP			
Motor Volts		<u>110</u>	
Motor FLA		<u>0.833</u>	
Measured Amps			
CFM (from Plans)		<u>240 from nameplate.</u>	
Notes			

#### COILS

See AHU data

Indicate capacities where found:

##### COOLING

DX 2 each  
✓ Lennox C14-65-1FF  
H<sub>2</sub>O  
OTHER

##### HUMIDIFICATION

ELEC  
STEAM  
H<sub>2</sub>O  
OTHER

##### HEATING

GAS  
H<sub>2</sub>O  
ELEC  
OTHER

##### AUX/MISC OTHER

#### FILTERS

Type	<u>EG</u>		
Condition	<u>New</u>		
Manometer Reading 1/			

1/ Record only if manometer is installed on the unit.

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

- a. Is System Supported from (check one): ☐ Central Plant ☒ One System per Building  
☐ Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: \_\_\_\_\_ °F \_\_\_\_\_ °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:  
3/4" insulated with 1" FG insulation, no jacket.
- d. Is Piping System Insulated and Condition: yes, new Ball & Gossett Series #100 CSS 106189 2250F
- e. Is Hot Water Circulated? Circ Pump
- 1) Condition of circulator new 3) Is aquastat provided? on boiler  
2) Circulator capacity see catalog, form 4) Aquastat temperature setting "warm"

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- a. Location 4 each Rooms
- b. Areas Served Bldg
- c. Manufacturer and Model American Appliance Mfg Corp. GV8554T LP.
- d. Energy (Oil, Gas, Electric, Coal, Etc.) Propane
- e. Type Heaters & Quantities: Santa Monica, Ca.
- 1) Storage \_\_\_\_\_
- 2) Instantaneous \_\_\_\_\_
- 3) Semi-Instantaneous \_\_\_\_\_
- f. Heater Size and Storage Capacity 50000 BTU/H
- g. Heating Capacity ~ 40 gallons not on nameplate
- h. Type Controls (Air, Steam, Electric) demand
- i. When Installed & Condition recent / good
- j. Heater Temperature Setting "warm"
- k. Average Water Maintained Temperature \_\_\_\_\_
- l. Temperature Differential (j) - (k) \_\_\_\_\_
- m. Is Hot Water Supply Adequate: yes
- n. Insulation Thickness integral to new htr.
- o. Insulation Material \_\_\_\_\_

LOCATION FHL

BLDG. NO. 178

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

CONTROL SYSTEM:

CONTROLLERS:

☐

ELECTRIC

☐

PNEUMATIC

☐

ELECTRONIC

OPERATION:

☐

MANUAL

☐

CONTINUOUS

☒

DEMAND

☒

TIME CLOCK

☐

EMCS

MFG \_\_\_\_\_

MODEL

7-day, 24Hr  
time clock

LOCATION \_\_\_\_\_

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

New, set for 7 days/week

on from 0400

off at 1900

Recommend set to on at 0600

off at ~~0530~~ 1730

CONTROL/MISCELLANEOUS PROCESS/SKETCHES

Storage = 1 R F3442  
Room  
Jambor = 1 " "  
Laundry = 1 " "

LOCATION F1+L BLDG. 178

LIGHTING

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/ DAY ON	DAYS/ YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT <sup>2</sup> )	WATTS PER SQ. FT.	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS	FINISH	WINDOW CODE	REMARKS (LIGHTS/SWITCH)
Entry	R	F 34	2	3								7'-11"	LL	FF	NS	Each side, 1 switch
Corridor	R		2	6											NS	
WC #1	S	F 34	1	2											NS	105°F DHW
OFFICE #35	R	F 34	2	2											NS	
WATER	R	F 34	2	3											NS	
"	S	I 75	1/75	1											NS	IN HOOD
OFFICE #1	R	F 34	2	2											NS	
OFFICE #2	R	F 34	2	1												
Preschool	R	F 34	2	7												
Teacher	R	F 34	2	6												
Room 3	R	F 34	2	6												
TOTAL BUILDING LIGHTING ENERGY																

Room 5 6

LIGHTING LEGEND:

Lamp Types:  
Incandescent = I  
Fluorescent = F  
Sodium Vapor = SV  
Mercury Vapor = MV  
Metal Halide = MH  
Other--Describe

Window Code:  
If there are windows, indicate:  
Curtains = C  
Shades = S  
No Shading = NS

Tasks Code:  
1 = Corridors  
2 = Kitchens  
3 = Dining  
4 = Offices-general  
5 = Offices-bookkeeping (ledgers only)  
6 = Offices-drafting  
7 = Laundry  
8 = Toilets  
9 = Sleeping quarters  
10 = Supply rooms  
11 = Repair shops  
12 = Storage room  
13 = Retail store (PX, commissary)  
Other (describe on audit form)  
E = Exterior

LOCATION PAL  
BLDG. NO. 178

#### 4.2 LIGHTING (continued)

##### 4.2.2 Exterior Lighting

ACTUAL NO. OF FIXTURES	TYPE OF FIXTURE	NO. OF FIXTURES IN USE	WATTS/ FIXTURE	TOTAL WATTS	CONTROL TYPE*	REMARKS
<u>NESS = 4</u>	<u>LPS</u>	<u>4 same</u>	<u>75</u>		<u>P</u>	

\* M = Manual    T = Timer    P = Photocell    Enter schedule under Remarks.

#### CALCULATIONS

##### WATTS OF INTERIOR LIGHTING

Actual at time of survey \_\_\_\_\_

Total installed \_\_\_\_\_

##### WATTS OF EXTERIOR LIGHTING

Actual on at time of survey \_\_\_\_\_

Total installed \_\_\_\_\_

LIGHTING-EXTERIOR

LOCATION FHL  
BLDG. NO. 178

#### 4.3 POWER USAGE SURVEY

##### 4.3.1 CRITICAL LOAD (Computer, Communications)

Describe: none  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

##### 4.3.2 RECEPTACLES IN USE \_\_\_\_\_ PERCENT

##### 4.3.3 SMALL APPLIANCES IN USE (ENTER COUNT)

Water Cooler \_\_\_\_\_

Vending Machine \_\_\_\_\_

Space Heater \_\_\_\_\_

Coffee Pot \_\_\_\_\_

TV \_\_\_\_\_

XEROX \_\_\_\_\_

Other: \_\_\_\_\_

Elec. Kit. Stone 1

Dishwasher 1

Refr. \_\_\_\_\_

McCall MN 3020  
120V 6.2A.

Jackson/ALCO Model 24B

1/2 HP load

Run Hrs

Wash Hrs

Total Load 5.9 kW @ 208V

→ 7.2 kW @ 230V

POWER USAGE SURVEY

4.3



## 2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHC SURVEYED BY BIH/RJB DATE OCT 92  
 BUILDING NUMBER S-182/S-172 FUNCTION/USE COMMISSARY  
 INFORMATION SOURCE (DWG. NO./PERSON) VISUM

### GENERAL BUILDING DATA

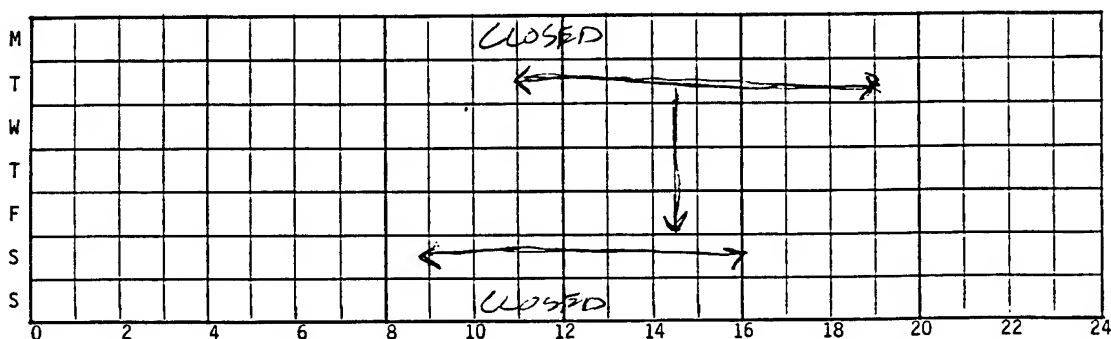
BUILDING AGE: NEW YEARS

DUPLICATE BUILDING NOS: \_\_\_\_\_ TOTAL: \_\_\_\_\_

SIMILAR BUILDING NOS: \_\_\_\_\_ TOTAL: \_\_\_\_\_

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) ☐ NO. OF OCCUPANTS 25

Indicate (number and) duration of occupants each day



MISCELLANEOUS EQUIPMENT: REFRIGERATION EQUIP. - FREEZERS + COOL BOXES - SEE ATTACHED

ADDITIONAL COMMENTS, CRITICAL LOADS: \_\_\_\_\_

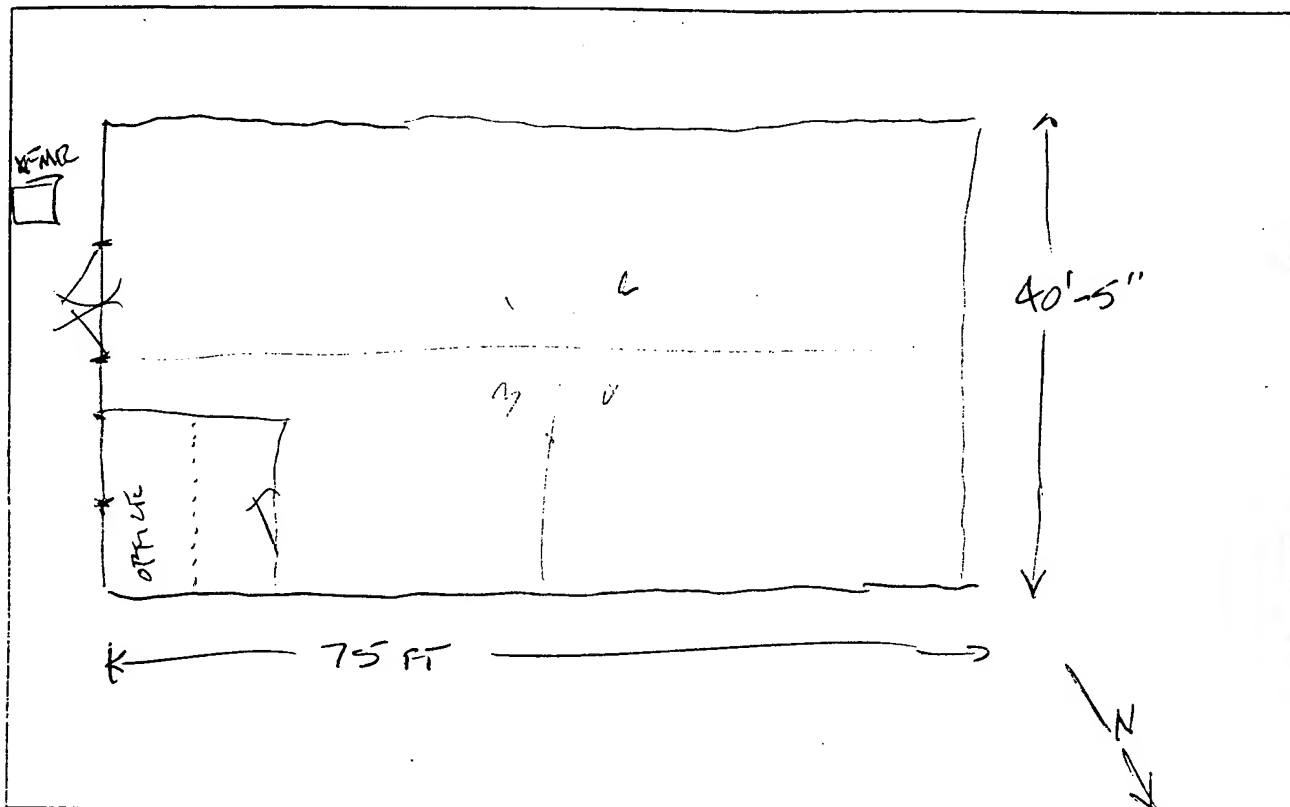
CRAWL SPACE: VENTILATED ☐ EXHAUSTED ☐

ATTIC: VENTILATED ☐ EXHAUSTED ☐

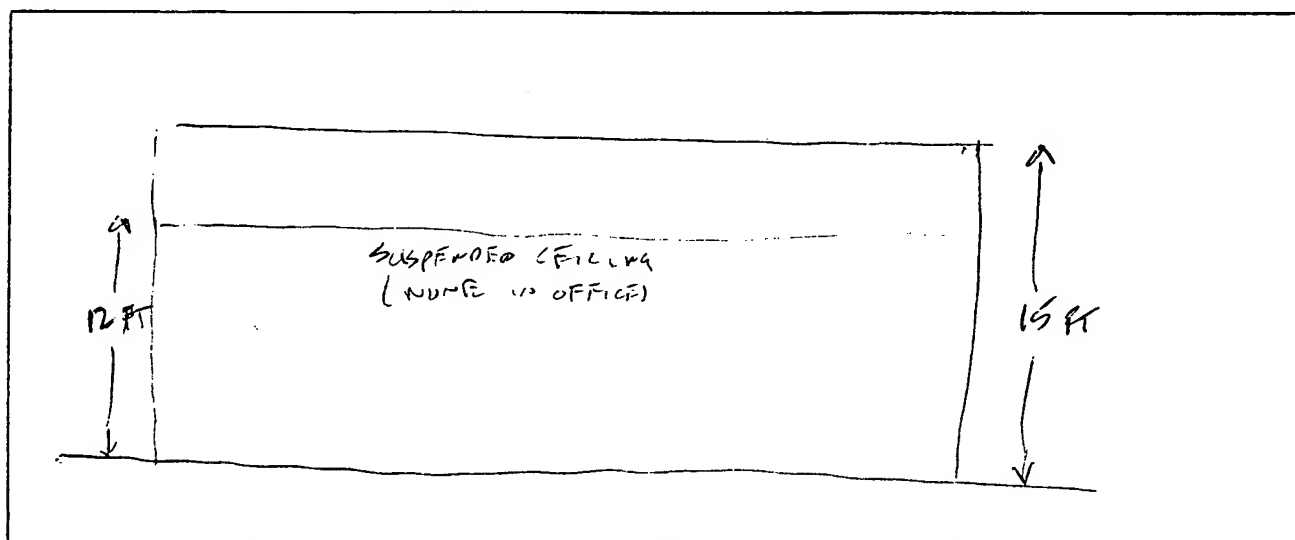
## 2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

LOCATION FH2  
BLDG. NO. 182

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



BUILDING FLOOR PLAN AND  
ELEVATION SKETCHES

WINDOW TYPES:	
1 - DOUBLE HUNG	4 - CASEMENT
2 - SINGLE HUNG	5 - LOUVERED
3 - SLIDING	6 - FIXED GLASS

**\*\*\*VISIBILITY:**  
E - AWNING  
F - SOLAR SCREEN  
G - OVERHANG  
OTHER - SPECIFY

\*\*\*SHADING:

A -	SOLAR FILM
B -	VEN BLIND
C -	STORM WINDOO
D -	DRAPES

W - WOOD  
M - METAL  
T - METAL/THERMAL BREAK

**\*GLAZING:**

1 -	ORDINARY
2 -	1/4" PLATE
3 -	HEAT ABSORBING
4 -	TINTED

## 2.4 BUILDING ENVELOPE

LOCATION FHLBLDG. NO. 182

## CONSTRUCTION

WALL

ALLCOLOR: D ☐M ☐L ☒

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.25
METAL		0.61
BATT INSUL	3"	11.00
AIR SPACE		0.68
GYP BOARD		0.32
INSIDE FILM		0.68
TOTAL		13.54

U-FACTOR

0.07

AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR

AREA

ROOF (INCL. CLG.)

TYPE: F ☐P ☒COLOR: D ☐M ☒L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.25
METAL ROOF		0.61
6" BATT		19.00
GYP BOARD		0.32
INSIDE FILM		0.68
TOTAL		20.86

U-FACTOR

0.05

AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR

AREA

BUILDING SKIRTING MATERIAL

BUILDING ENVELOPE

2.4

## 3.1 HEATING EQUIPMENT

LOCATION FHL  
BLDG. NO. 182

PACKAGED PROPANE HEATING/DX COOLING UNIT (2 UNIT)

Heat Source:

☐ Furnace ☐ Steam Boiler ☐ Hot Water Boiler ☐ Heat Pump ☐ Supplied Steam or Hot Water (External Boiler Plant) ☒ Other \_\_\_\_\_Capacity: 80 MBtu/Hr or \_\_\_\_\_ Boiler HP or \_\_\_\_\_ Lbs/Hr Steam or \_\_\_\_\_ GPM Hot WaterManufacturer: CARRIER Model No.: \_\_\_\_\_Boiler/Furnace Control: ☐ Manual ☐ Time Clock ☐ Demand ☐ EMCS ☐ O<sub>2</sub> Trim

Operating Temperature: \_\_\_\_\_ °F Operating Pressure: \_\_\_\_\_ PSI

Fuel: ☐ Nat. Gas Only ☐ Nat. Gas/ \_\_\_\_\_ Draft: ☐ Forced  
☒ Other (Specify) PROPANE ☐ InducedBurner: Mfg. \_\_\_\_\_ Model No. \_\_\_\_\_ Metering Equipment: ☐ Yes ☐ No

Operating Schedule: Weekdays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

Weekdays &amp; Holidays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

Operating Season: From \_\_\_\_\_ Mon/Day, to \_\_\_\_\_ Mon/Day

Flue Gas Temperature: \_\_\_\_\_ °F Receiver Tank Conditions: \_\_\_\_\_ PSIG \_\_\_\_\_ °F

If supplied Steam or Hot Water: Steam Pressure \_\_\_\_\_ PSI Hot Water Supply Temp. \_\_\_\_\_ °F Hot Water Return Temp. \_\_\_\_\_ °F

Insulation: (1) Boiler

Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>  
None ☐ Temp. \_\_\_\_\_ °F

(2) Other (Specify) \_\_\_\_\_

Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>  
None ☐ Temp. \_\_\_\_\_ °F

Pump: No. of Pumps \_\_\_\_\_ V/PH/FLA \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_ RPM \_\_\_\_\_

HW Pump Starter: ☐ HOA ☐ Reset P/B ☐ S/S Push Button Interlocked with Boiler? ☐ Yes ☐ No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. \_\_\_\_\_ Model \_\_\_\_\_

Condensate Pumps/Hot Water Pumps: Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_

Boiler/Furnace Condition: \_\_\_\_\_

Describe \_\_\_\_\_

Occupant Discomfort (Evaluate): \_\_\_\_\_

HEATING EQUIPMENT

3.2 COOLING EQUIPMENTLOCATION FHL  
BLDG. NO. 182PACKAGED PROPANE/DX RHW'S (2 EACH)COMPRESSOR(S)/CHILLER

Manufacturer CARRIER WEATHERMAKER  
 Model No. 48LA000580  
 Size 5 TONS  
 Refrigerant R-22  
 Motor HP (if available) :  
 Motor Voltage 208V/34  
 Motor FLA 17  
 Measured Amps \_\_\_\_\_

CONDENSER/CONDENSING UNIT

Water Cooled COND EVAP  
 Air Cooled ✓  
 Evaporative \_\_\_\_\_  
 Manufacturer \_\_\_\_\_  
 Model No. \_\_\_\_\_  
 Size \_\_\_\_\_  
 Type of Fan \_\_\_\_\_  
 Fan Motor HP \_\_\_\_\_  
 Fan Motor Voltage 208V/10 208V/10  
 Fan Motor FLA 2 4  
 Measured Amps \_\_\_\_\_

COOLING TOWER

Gravity \_\_\_\_\_  
 Mech. Draft \_\_\_\_\_  
 Manufacturer \_\_\_\_\_  
 Model No. \_\_\_\_\_  
 Type of Fan \_\_\_\_\_  
 Fan RPM \_\_\_\_\_  
 Fan Motor HP \_\_\_\_\_  
 Fan Motor Voltage \_\_\_\_\_  
 Fan Motor FLA \_\_\_\_\_  
 Measured Amps \_\_\_\_\_

CHILLED WATER PUMPS (If more than one, how many  
operative during normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
 Model No. \_\_\_\_\_  
 Capacity Gals. \_\_\_\_\_  
 Head, Ft. \_\_\_\_\_  
 Motor HP \_\_\_\_\_  
 Motor Voltage \_\_\_\_\_  
 Motor FLA \_\_\_\_\_  
 Measured Amps \_\_\_\_\_

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
 Model No. \_\_\_\_\_  
 Capacity, Gals. \_\_\_\_\_  
 Head, Ft. \_\_\_\_\_  
 Motor HP \_\_\_\_\_  
 Motor Voltage \_\_\_\_\_  
 Motor FLA \_\_\_\_\_  
 Measured Amps \_\_\_\_\_

REMARKS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

COOLING EQUIPMENT

### 3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

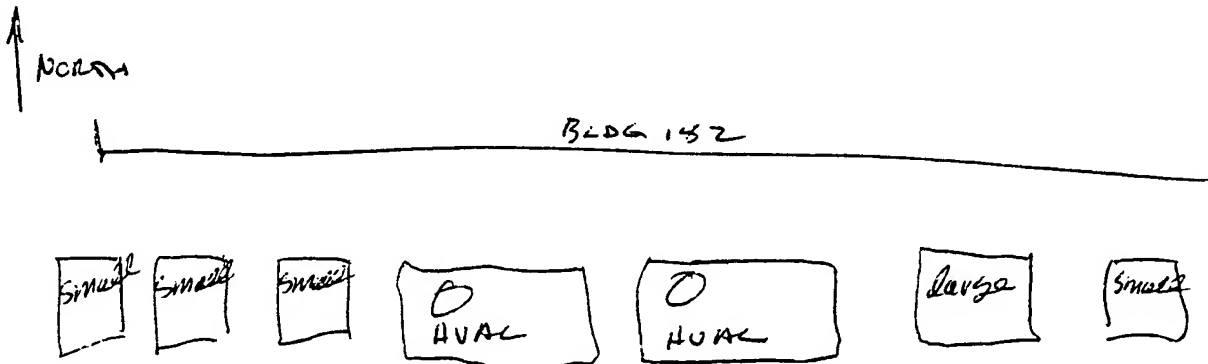
LOCATION FIR  
BLDG. NO. 182

- a. Is System Supported from (check one): ☐ Central Plant ☒ One System per Building  
☐ Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: 100°F °F \_\_\_\_\_ °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:  
3/4" 20 FT  
\_\_\_\_\_  
\_\_\_\_\_
- d. Is Piping System Insulated and Condition: Yes
- e. Is Hot Water Circulated? No
- 1) Condition of circulator NA 3) Is aquastat provided? NA  
2) Circulator capacity NA 4) Aquastat temperature setting NA

#### DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- |  |                    |            |       |
|--|--------------------|------------|-------|
| a. Location                                | <u>INT. CLOSET</u> | _____      | _____ |
| b. Areas Served                            | <u>BARBERS</u>     | _____      | _____ |
| c. Manufacturer and Model                  | <u>MIL BRASS</u>   | _____      | _____ |
| d. Energy (Oil, Gas, Electric, Coal, Etc.) | <u>PROPANE</u>     | _____      | _____ |
| e. Type Heaters & Quantities:              |                    |            |       |
| 1) Storage                                 | _____              | _____      | _____ |
| 2) Instantaneous                           | _____              | _____      | _____ |
| 3) Semi-Instantaneous                      | _____              | _____      | _____ |
| f. Heater Size and Storage Capacity        | <u>1500 W</u>      | _____      | _____ |
| g. Heating Capacity                        | <u>6 GAL</u>       | _____      | _____ |
| h. Type Controls (Air, Steam, Electric)    | <u>REC</u>         | _____      | _____ |
| i. When Installed & Condition              | <u>NEW</u>         | _____      | _____ |
| j. Heater Temperature Setting              | <u>-</u>           | _____      | _____ |
| k. Average Water Maintained Temperature    | <u>-</u>           | _____      | _____ |
| l. Temperature Differential (j) - (k)      | <u>-</u>           | _____      | _____ |
| m. Is Hot Water Supply Adequate:           | <u>-</u>           | _____      | _____ |
| n. Insulation Thickness                    | <u>-</u>           | Type _____ | _____ |
| o. Insulation Material                     | <u>-</u>           | _____      | _____ |

DOMESTIC HOT WATER SYSTEM/EQUIPMENT

REFRIGERATION EQUIPMENT DATACONDENSING UNITS

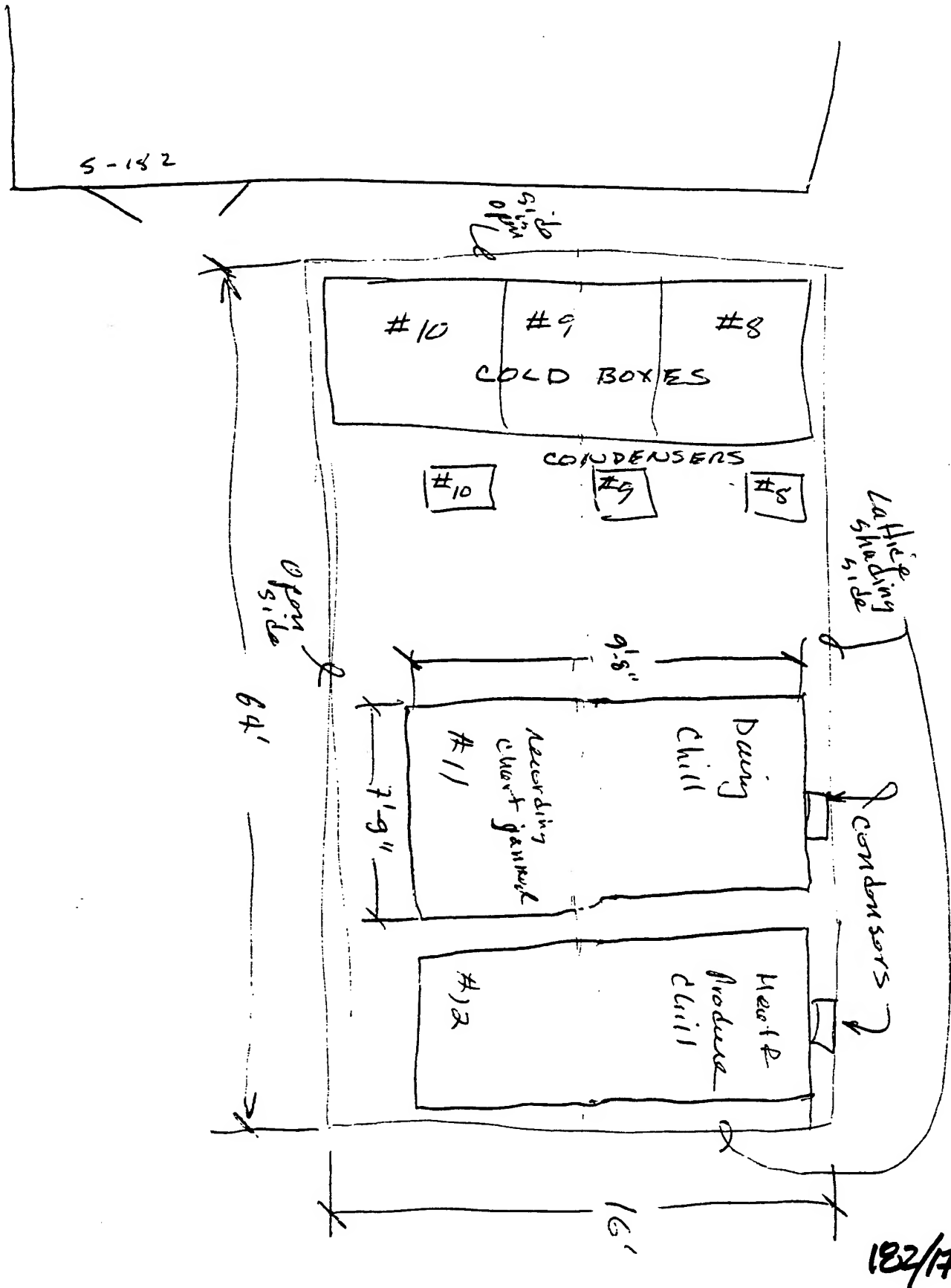
LARGE: HUSSMANN H0CA0915RLKXU  
 SN 9061-004  
 PNL NO. 0K42  
 Receiver Cap. 80% Full 99 LBS 2502  
 Field Chge —  
 Compr. RLA 32 Amps 208/230 Volts 60 Hz 3 $\phi$   
 Compr. Clng Fan Mtr 208/230 Volts 1 $\phi$   
 Cond. Fan Mtr 2.5 FLA 208/230 Volts 60 Hz 1 $\phi$   
 Max Defrost Amps ~~208/230V~~ 50 A 460V 3 $\phi$   
 Min Ckt Ampacity 50 A 460V  
 Max Overcurrent Protective Device  
 208/230V 70 A 460V

5/10/90

SMALL: HUSSMANN MODEL H0CA0313VHXU  
 (T.M.P. FOR 4)  
 Compr. RLA = 12 208/230V, 3 $\phi$   
 COND FAN MTR 2.5A 208/230V, 1 $\phi$   
 COMP. FAN 208/230V, 1 $\phi$   
 R-22



FHL  
182/172



UNITS INSIDE & OUTSIDE  
containing Product

- #4 Hussmann HM DM13214U R502  
120V 11.9A Lights  
208V 7.5A Defrost  
120V 2.1A Fan
- #5 Hussmann MN:MHF13U R502  
120V 7.2 Lights  
208V 7.8 Defrost  
120V 3.1 Fan
- #6 Hussmann MN:PH13U  
120V 3.3 A Lights  
208V ———  
120V 1.4 A Fan
- #7 Same as #6
- #8 Baycons Metal Products  
MILSPEC: MIL R 10932E  
TECH MANUAL: MBS 4110 304/1  
MN: 600 C1 T2
- #9 Same as #8
- #10 Same as #8
- #11 Kolpak Walk-in Box see plan for dimensions
- #12 \_\_\_\_\_ 11 \_\_\_\_\_

CONDENSING UNITS

#8 Heatcraft Inc.  
 MN: TRH -020-A253F SN: WUH 00040  
 208/230V 3PH 60HZ MIN CKT AMPLTY 17.0  
 COMPRESSOR: COND. FAN  
 RLA LRA 2 EA 1/15 HP 0.5 FLA EACH  
 5.9 460 A  
 DESIGN PRESSURE KIT EVAP FAN HTR  
 High LOW AK-IT 5 AMPS  
 400 psig 162 psig DEFROST HTR 17 AMP  
 R502; 6.2264 -40°F EVAP MIN 0°F EVAP MAX

#9 Same as #8 SN: WUH 00033

#10 Same as #8 SN: WUH 00045

#11 Copeland EBAM-A075-TAC-001  
 01F9D PRODUCT CODE NO.  
 COMP.  
 3.6 RLA 19.4 LRA 4.4 MIN AMPLTY R12  
 208/230V 3P 60#2 15A fuse

#12 Same as #11

Refrigeration Temperature Control

Com Tral E2-set TMP-3005

CKT	1	-14	°F
2	-9		
3	-6		
4	38		
5	31		
6	35		
7	39		
8	1		
9	-5		
10	-4		
11	32		
12	34		

4.2 Lighting  
4.2.1 Interior Lighting

LIGHTING LOCATION FHL BLDG. 182

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/ DAY ON	DAYS/ YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT <sup>2</sup> )	WATTS PER SQ. FT.	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS	FINISH	WINDOW CODE	REMARKS (LIGHTS/SWITCH)
13	S	F96	1/135	69							50-60					
4	S	F40	2/72	4												
REF1	S	F72	4/240	1												
REF2	S	F72	6/360	1												
REF3	S	F72	6/360	1												
REF4	S	F72	2/120	1												
REF5	S	F40	4/144	1												
REF6	S	F40	3/115	1												
REF7	S	F40	3/115	1												
WALL	S	F20	2/50	1												
TOTAL BUILDING LIGHTING ENERGY																

LIGHTING LEGEND:

Fixture Types:  
Recessed = R  
Suspended = S  
Ventilated = V  
Pole Mounted = PM  
Other--Describe

Lamp Types:  
Incandescent = I  
Fluorescent = F  
Sodium Vapor = SV  
Mercury Vapor = MV  
Metal Halide = MH  
Other--Describe

Window Code:  
If there are windows, indicate:  
Curtains = C  
Shades = S  
No Shading = NS

Tasks Code:  
1 = Corridors  
2 = Kitchens  
3 = Dining  
4 = Offices-general  
5 = Offices-bookkeeping (ledgers only)  
6 = Offices-drafting  
7 = Laundry  
8 = Toilets  
9 = Sleeping quarters  
10 = Supply rooms  
11 = Repair shops  
12 = Storage room  
13 = Retail store (PX, commissary)  
Other (describe on audit form)  
E = Exterior

LOCATION F12  
 BLDG. NO. 132

4.2 LIGHTING (continued)

4.2.2 Exterior Lighting

ACTUAL NO. OF FIXTURES	TYPE OF FIXTURE	NO. OF FIXTURES IN USE	WATTS/ FIXTURE	TOTAL WATTS	CONTROL TYPE*	REMARKS
<u>2</u>	<u>FLUORESCENT</u>	<u>2</u>	<u>100</u>	<u>200</u>	<u>T or P</u>	

\* M = Manual    T = Timer    P = Photocell    Enter schedule under Remarks.

CALCULATIONS

WATTS OF INTERIOR LIGHTING

Actual at time of survey JA  
 Total installed \_\_\_\_\_

WATTS OF EXTERIOR LIGHTING

Actual on at time of survey \_\_\_\_\_  
 Total installed \_\_\_\_\_

LIGHTING-EXTERIOR

## 2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHL SURVEYED BY RIB DATE Oct 92  
 BUILDING NUMBER 3-186 FUNCTION/USE OFFICE  
 INFORMATION SOURCE (DWG. NO./PERSON) Visual

### GENERAL BUILDING DATA

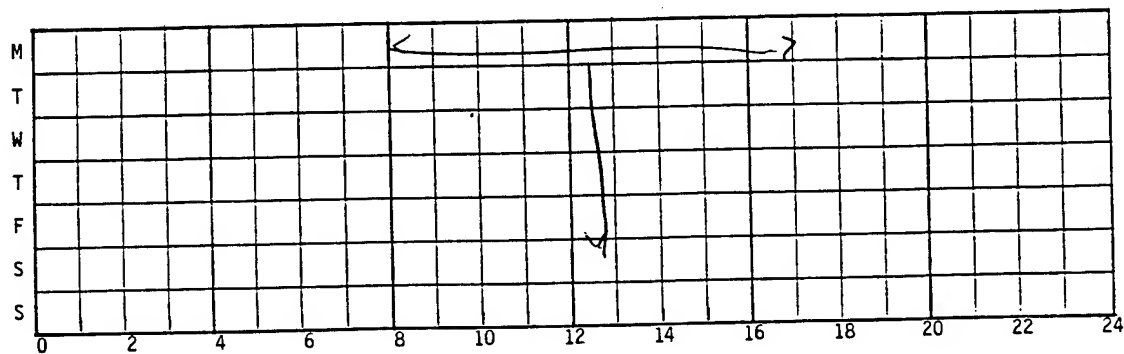
BUILDING AGE: NEW YEARS

DUPLICATE BUILDING NOS: \_\_\_\_\_ TOTAL: \_\_\_\_\_

SIMILAR BUILDING NOS: \_\_\_\_\_ TOTAL: \_\_\_\_\_

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) ☐ NO. OF OCCUPANTS 2

Indicate (number and) duration of occupants each day



MISCELLANEOUS EQUIPMENT: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

ADDITIONAL COMMENTS, CRITICAL LOADS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

CRAWL SPACE: VENTILATED ☐ EXHAUSTED ☐ none

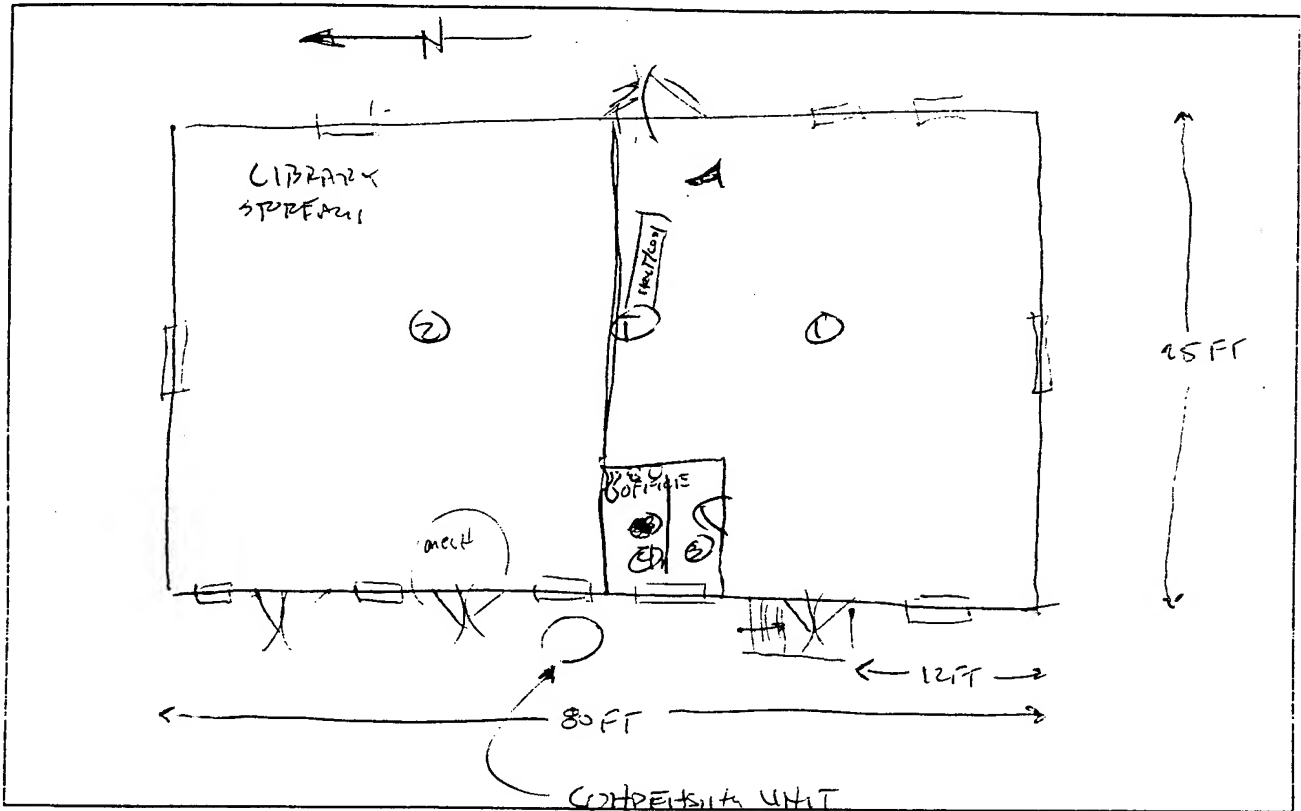
ATTIC: VENTILATED ☐ EXHAUSTED ☐ none

## 2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

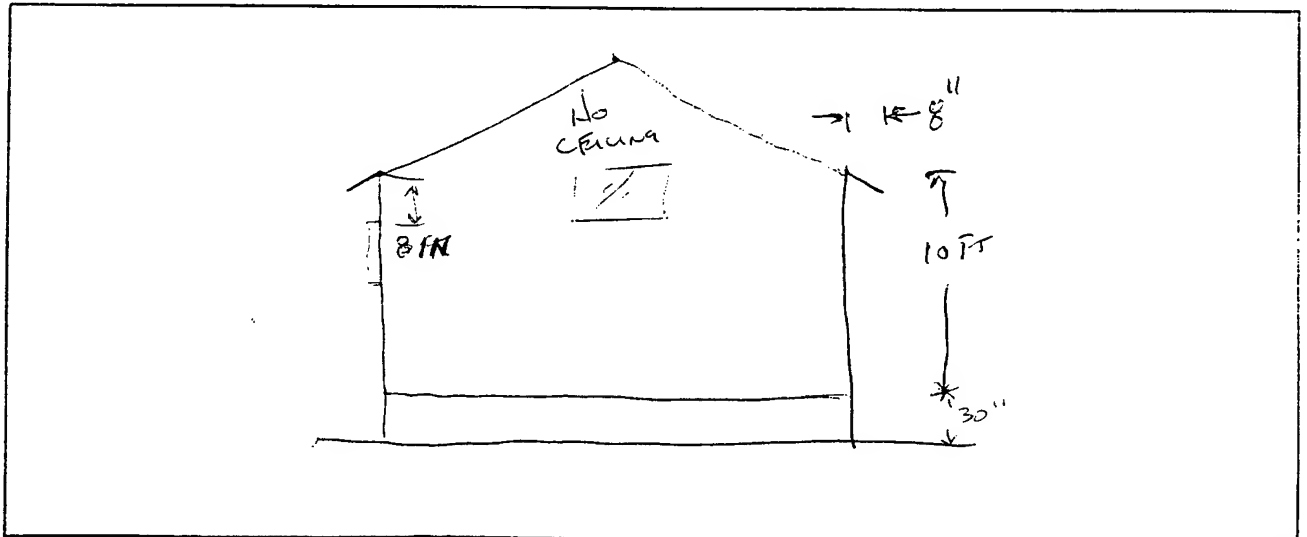
LOCATION Flt

BLDG. NO. 126

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



BUILDING FLOOR PLAN AND  
ELEVATION SKETCHES



## 2.3

LOCATION

BLDG. NO.

[illegible]

U-VALUE

TOTAL AREA

LEGEND:

WINDOW TYPES:	
1 - DOUBLE HUNG	4 - CASEMENT
2 - SINGLE HUNG	5 - LOUVERED
3 - SLIDING	6 - FIXED GLASS

\*\*\*VISIBILITY:  
E - AWNING  
F - SOLAR SCREEN  
G - OVERHANG  
OTHER - SPECIFY

**\*\*\*SHADING:**

A - SOLAR FILM  
B - VEN BLIND  
C - STORM WINDOW  
D - DRAPES

W - WOOD  
M - METAL  
T - METAL/THERMAL BREAK

\*GLAZING:

---

1 - ORDINARY  
2 - 1/4" PLATE  
3 - HEAT ABSORBING  
4 - TINTED

## 2.3

## ARCHITECTURAL WINDOWS & DOORS

## 2.4 BUILDING ENVELOPE

LOCATION FLR

BLDG. NO. 130

### CONSTRUCTION

WALL

COLOR: D ☐

M ☒

L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM	METAL	
METAL	METAL 1/8"	
INSULATION	1"	
METAL	1/8"	
INSIDE FILM		

TOTAL

U-FACTOR

AREA

FLOOR

 S.G.G.

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		

TOTAL

U-FACTOR

AREA

BUILDING SKIRTING MATERIAL

ROOF (INCL. CLG.)

TYPE: F ☐

P ☐

COLOR: D ☐

M ☒

L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
CEMENT BOARD	1/8"	
INSULATION	1"	
AIR SPACE	4"	
ACROBAT CR	1/2"	
INSIDE FILM		

TOTAL

U-FACTOR

AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		

TOTAL

U-FACTOR

AREA

BUILDING ENVELOPE

2.4

3.1

## HEATING EQUIPMENT

LOCATION

BLDG. NO.

FAC

185

Heat Source:

☐ Furnace   ☐ Steam Boiler   ☐ Hot Water Boiler   ☐ Heat Pump   ☐ Supplied Steam or Hot Water (External Boiler Plant)   ☐ Other \_\_\_\_\_

Capacity: \_\_\_\_\_ Btu/Hr or \_\_\_\_\_ Boiler HP or \_\_\_\_\_ Lbs/Hr Steam or \_\_\_\_\_ GPM Hot Water

Manufacturer: CARRIER Model No.: \_\_\_\_\_Boiler/Furnace Control: ☐ Manual   ☐ Time Clock   ☐ Demand   ☐ EMCS   ☐ O<sub>2</sub> Trim

Operating Temperature: \_\_\_\_\_ °F   Operating Pressure: \_\_\_\_\_ PSI

Fuel: ☐ Nat. Gas Only   ☐ Nat. Gas/\_\_\_\_\_Draft: ☐ Forced☒ Other (Specify) PROPANE☐ InducedBurner: Mfg. \_\_\_\_\_ Model No. \_\_\_\_\_ Metering Equipment: ☐ Yes   ☐ No

Operating Schedule: Weekdays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

Weekdays &amp; Holidays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

Operating Season: From \_\_\_\_\_ Mon/Day, to \_\_\_\_\_ Mon/Day

Flue Gas Temperature: \_\_\_\_\_ °F   Receiver Tank Conditions: \_\_\_\_\_ PSIG   \_\_\_\_\_ °F

If supplied Steam or Hot Water: Steam Pressure \_\_\_\_\_ PSI   Hot Water Supply Temp. \_\_\_\_\_ °F   Hot Water Return Temp. \_\_\_\_\_ °F

Insulation: (1) Boiler

(2) Other (Specify) \_\_\_\_\_

Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>None ☐ Temp. \_\_\_\_\_ °FNone ☐ Temp. \_\_\_\_\_ °F

Pump: No. of Pumps \_\_\_\_\_ V/PH/FLA \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_ RPM \_\_\_\_\_

HW Pump Starter: ☐ HOA   ☐ Reset P/B   ☐ S/S Push Button   Interlocked with Boiler? ☐ Yes   ☐ No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. \_\_\_\_\_ Model \_\_\_\_\_

Condensate Pumps/Hot Water Pumps: Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_

Boiler/Furnace Condition: \_\_\_\_\_

Describe \_\_\_\_\_

Occupant Discomfort (Evaluate): \_\_\_\_\_

HEATING EQUIPMENT

3.1

3.2 COOLING EQUIPMENTLOCATION 17ABLDG. NO. 1906COMPRESSOR(S)/CHILLER

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Size \_\_\_\_\_  
Refrigerant \_\_\_\_\_  
Motor HP (if available) NA \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

CONDENSER/CONDENSING UNIT

Water Cooled \_\_\_\_\_  
Air Cooled 2 \_\_\_\_\_  
Evaporative \_\_\_\_\_  
Manufacturer CARRIER / DAY & NIGHT \_\_\_\_\_  
Model No. 569 BPX090000 ACAA \_\_\_\_\_  
Size \_\_\_\_\_  
Type of Fan COND COMP \_\_\_\_\_  
Fan Motor HP 1/2 \_\_\_\_\_  
Fan Motor Voltage 208/230 208/230 \_\_\_\_\_  
Fan Motor FLA 2.9 FLA 30.1 FLA \_\_\_\_\_  
Measured Amps 10 24 \_\_\_\_\_

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity, Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA NA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

REMARKS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_COOLING TOWER

Gravity \_\_\_\_\_  
Mech. Draft \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Type of Fan NA \_\_\_\_\_  
Fan RPM \_\_\_\_\_  
Fan Motor HP \_\_\_\_\_  
Fan Motor Voltage \_\_\_\_\_  
Fan Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

CHILLED WATER PUMPS (If more than one, how many operative during normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity Gals. \_\_\_\_\_  
Head, Ft. NA \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

COOLING EQUIPMENT

### 3.3 AIR HANDLING EQUIPMENT

LOCATION FH  
BLDG. NO. 186

SPLIT SYSTEM  
PRODUCT# 395CAV048075AACA

#### FANS

Type	_____	_____	_____	_____
Unit/Zone	# _____	# _____	# _____	# _____
Manufacturer	<u>CARRIER</u>	_____	_____	_____
Model No.	<u>395CAV048075</u>	_____	_____	_____
Type	<u>INDOOR CENT</u>	_____	_____	_____
RPM of Fan	_____	_____	_____	_____
Motor HP	<u>1/2</u>	_____	_____	_____
Motor Volts	_____	_____	_____	_____
Motor FLA	_____	_____	_____	_____
Measured Amps	_____	_____	_____	_____
CFM (from Plans)	<u>3.5" SP</u>	_____	_____	_____
Notes	_____	_____	_____	_____

ECONOMIZER & RETROFIT  
BUT NO RELIEF

#### COILS

Indicate capacities where found:

##### COOLING SEPARATE

DX MOD. 513CXV043022 MACA

H<sub>2</sub>O \_\_\_\_\_

OTHER \_\_\_\_\_

##### HEATING

GAS \_\_\_\_\_ ✓

H<sub>2</sub>O \_\_\_\_\_

ELEC \_\_\_\_\_

OTHER \_\_\_\_\_

##### HUMIDIFICATION

ELEC \_\_\_\_\_

STEAM \_\_\_\_\_

H<sub>2</sub>O NA

OTHER \_\_\_\_\_

##### AUX/MISC OTHER

NA

#### FILTERS

Type	_____	_____	_____
Condition	<u>NA</u>	<u>NA</u>	<u>NA</u>
Manometer Reading 1/	_____	_____	_____

1/ Record only if manometer is installed on the unit.

3.4.2

AIR HANDLING EQUIPMENT

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

- a. Is System Supported from (check one): ☐ Central Plant ☐ One System per Building  
☐ Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: \_\_\_\_\_ °F \_\_\_\_\_ °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- d. Is Piping System Insulated and Condition: \_\_\_\_\_
- e. Is Hot Water Circulated? \_\_\_\_\_  
1) Condition of circulator \_\_\_\_\_ 3) Is aquastat provided? \_\_\_\_\_  
2) Circulator capacity \_\_\_\_\_ 4) Aquastat temperature setting \_\_\_\_\_

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- a. Location \_\_\_\_\_
- b. Areas Served \_\_\_\_\_
- c. Manufacturer and Model \_\_\_\_\_
- d. Energy (Oil, Gas, Electric, Coal, Etc.) \_\_\_\_\_
- e. Type Heaters & Quantities:  
1) Storage \_\_\_\_\_  
2) Instantaneous \_\_\_\_\_  
3) Semi-Instantaneous \_\_\_\_\_
- f. Heater Size and Storage Capacity \_\_\_\_\_
- g. Heating Capacity \_\_\_\_\_
- h. Type Controls (Air, Steam, Electric) \_\_\_\_\_
- i. When Installed & Condition \_\_\_\_\_
- j. Heater Temperature Setting \_\_\_\_\_
- k. Average Water Maintained Temperature \_\_\_\_\_
- l. Temperature Differential (j) - (k) \_\_\_\_\_
- m. Is Hot Water Supply Adequate: \_\_\_\_\_
- n. Insulation Thickness \_\_\_\_\_ Type \_\_\_\_\_
- o. Insulation Material \_\_\_\_\_

~~X~~ MZUWATEX

446 LSH R.P

## LIGHTING

LOCATION	BLDG.
17C	

**BLDG.**

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT <sup>2</sup> )	WATTS PER SQ.FT. (W/FT <sup>2</sup> )	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS		FINISH		WINDOW CODE	REMARKS (LIGHTS/SWITCH)	
													C E I L I N G	F L O O R	C E I L I N G	F L O O R			
06A	S	F	4	12														4 switches	
06B	S	F	4	4														S	
06C	S	F	4	2														S	
06D	S	F	4	19							60							S	
TOTAL BUILDING LIGHTING ENERGY																			

LIGHTING LEGEND:

**Lamp Types:**

Incandescent = I  
Fluorescent = F  
Sodium Vapor = SV  
Mercury Vapor = MV  
Metal Halide = MH  
Other--Describe

**Window Code:**

If there are windows, indicate:

Curtains = C  
Shades = S  
No Shading = NS

**Tasks Code:**

1 = Corridors  
2 = Kitchens  
3 = Dining  
4 = Offices-general  
5 = Offices-bookkeeping (ledgers only)  
6 = Offices-drafting  
7 = Laundry  
8 = Toilets  
9 = Sleeping quarters  
10 = Supply rooms  
11 = Repairs shops  
12 = Storage room  
13 = Retail store (PX, commissary)  
Other (describe on audit form)  
E = Exterior

### Fixture Types:

Recessed = R  
Suspended = S  
Ventilated = V  
Pole Mounted = PM  
Other--Describe

LOCATION Flt  
BLDG. NO. 186

## 4.2 LIGHTING (continued)

### 4.2.2 Exterior Lighting

ACTUAL NO. OF FIXTURES	TYPE OF FIXTURE	NO. OF FIXTURES IN USE	WATTS/ FIXTURE	TOTAL WATTS	CONTROL TYPE*	REMARKS
<u>3</u>	<u>Incand</u>	<u>3</u>			<u>T</u>	<u>ON 24 HR TIMER</u>

\* M = Manual (T) = Timer P = Photocell Enter schedule under Remarks.

### CALCULATIONS

#### WATTS OF INTERIOR LIGHTING

Actual at time of survey \_\_\_\_\_

Total installed 111

#### WATTS OF EXTERIOR LIGHTING

Actual on at time of survey \_\_\_\_\_

Total installed \_\_\_\_\_

LIGHTING-EXTERIOR



2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHC SURVEYED BY PUB/BIH DATE 10/6/92  
BUILDING NUMBER 19-0 FUNCTION/USE CHAPEL  
INFORMATION SOURCE (DWG. NO./PERSON) VISCIA/DRAWING

GENERAL BUILDING DATA

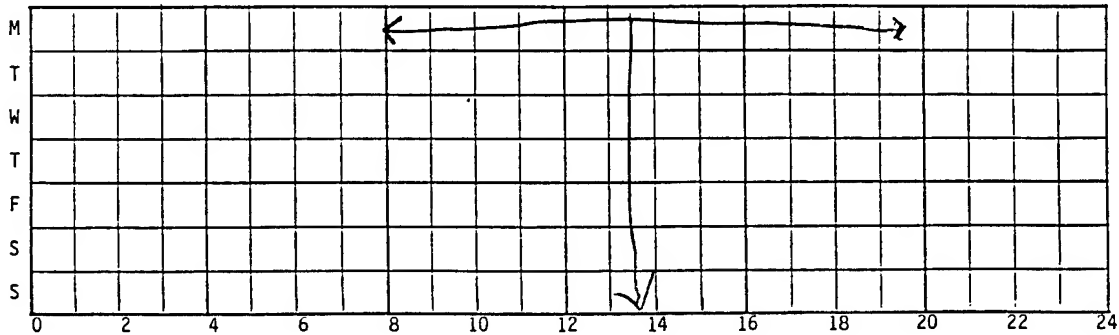
BUILDING AGE: 15 YEARS

DUPLICATE BUILDING NOS: \_\_\_\_\_  
TOTAL: \_\_\_\_\_

SIMILAR BUILDING NOS: \_\_\_\_\_  
TOTAL: \_\_\_\_\_

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) ☐ NO. OF OCCUPANTS 10

Indicate (number and) duration of occupants each day



MISCELLANEOUS EQUIPMENT: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

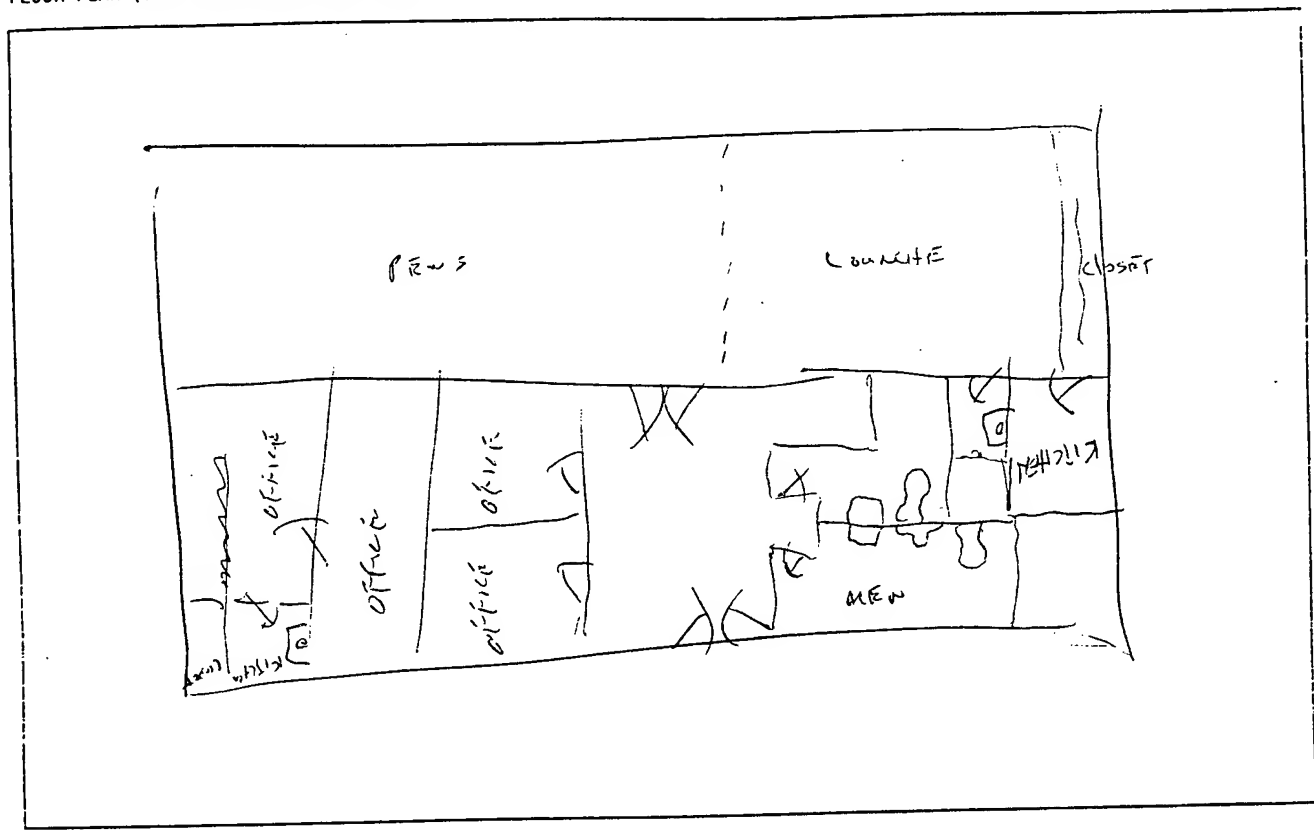
ADDITIONAL COMMENTS, CRITICAL LOADS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

CRAWL SPACE: VENTILATED ☒ EXHAUSTED ☐

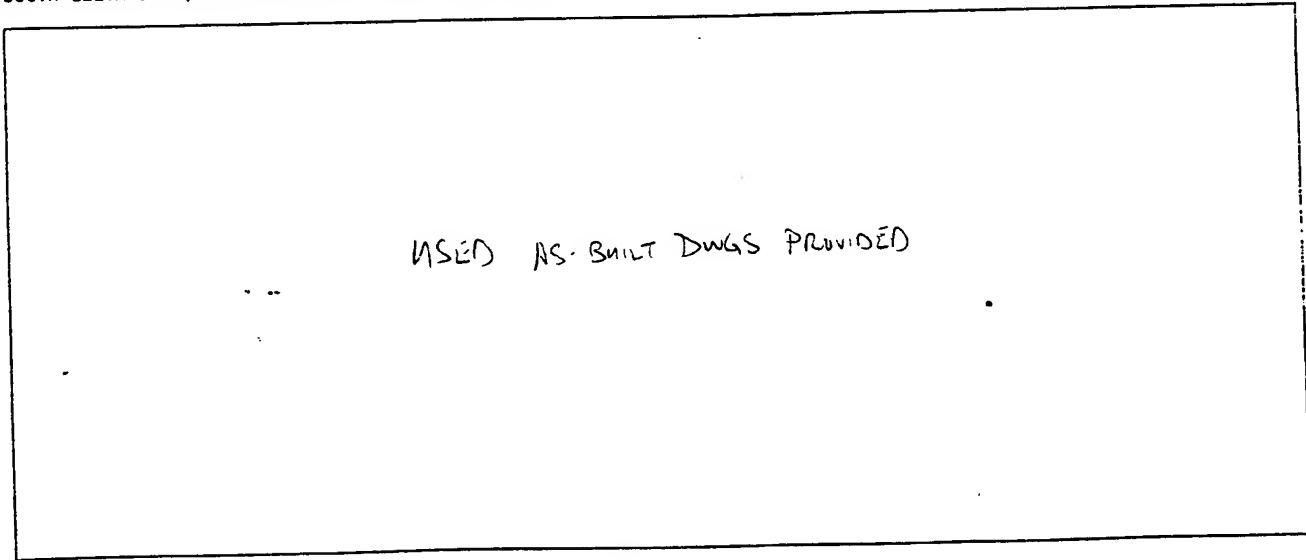
ATTIC: VENTILATED ☒ EXHAUSTED ☐

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



[illegible]

**LEGEND:**

**WINDOW TYPES:**

1 - DOUBLE HUNG	4 - CASEMENT
2 - SINGLE HUNG	5 - LOUVERED
3 - SLIDING	6 - FIXED GLASS

\*\*\*VISIBILITY:\*\*\*  
E - AWNING  
F - SOLAR SCREEN  
G - OVERHANG  
OTHER - SPECIFY

\*\*\*SHADING:

A - SOLAR FILM  
B - VEN BLIND  
C - STORM WINDOW  
D - DRAPES

*GLAZING:	**FRAME:
1 - ORDINARY	W - WOOD
2 - 1/4" PLATE	M - METAL
3 - HEAT ABSORBING	T - METAL/THERMAL BREAK

Thermal Evaporator

# 2.4 BUILDING ENVELOPE

LOCATION

BLDG. NO.

FH  
190

CONSTRUCTION

WALL

COLOR: D

☐

M

☐

L

☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		

TOTAL

U-FACTOR

AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		

TOTAL

U-FACTOR

AREA

BUILDING SKIRTING MATERIAL

ROOF (INCL. CLG.)

TYPE: F

☐

P

☐

COLOR: D

☐

M

☐

L

☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		

TOTAL

U-FACTOR

AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		

TOTAL

U-FACTOR

AREA

BUILDING ENVELOPE

2.4

3.1 HEATING EQUIPMENT

LOCATION FH2  
BLDG. NO. 190

Heat Source:

☐ Furnace ☐ Steam Boiler ☒ Hot Water Boiler ☐ Heat Pump ☐ Supplied Steam or Hot Water (External Boiler Plant) ☐ Other \_\_\_\_\_

Capacity: 422 MBtu/Hr or 12.6 Boiler HP or \_\_\_\_\_ Lbs/Hr Steam or \_\_\_\_\_ GPM Hot Water

Manufacturer: BURNHAM Model No.: 4FW 63-50-LB

Boiler/Furnace Control: ☐ Manual ☐ Time Clock ☒ Demand ☐ EMCS ☐ O<sub>2</sub> Trim

Operating Temperature: \_\_\_\_\_ °F Operating Pressure: \_\_\_\_\_ PSI

Fuel: ☐ Nat. Gas Only ☐ Nat. Gas/ \_\_\_\_\_ Draft: ☐ Forced ☒ Induced  
☒ Other (Specify) NO. 2 OIL

Burner: Mfg. RAY BURNER MFG Model No. JPR-0 Metering Equipment: ☐ Yes ☐ No

Operating Schedule: Weekdays: From 0530 To 1900 Hr/Day \_\_\_\_\_

Weekdays & Holidays: From 0530 To 1900 Hr/Day \_\_\_\_\_

Operating Season: From \_\_\_\_\_ Mon/Day, to \_\_\_\_\_ Mon/Day

Flue Gas Temperature: \_\_\_\_\_ °F Receiver Tank Conditions: \_\_\_\_\_ PSIG \_\_\_\_\_ °F

If supplied Steam or Hot Water: Steam Pressure \_\_\_\_\_ PSI Hot Water Supply Temp. \_\_\_\_\_ °F Hot Water Return Temp. \_\_\_\_\_ °F

Insulation: (1) Boiler (2) Other (Specify) \_\_\_\_\_

Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup> Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>

None ☒ Temp. \_\_\_\_\_ °F None ☐ Temp. \_\_\_\_\_ °F

Pump: No. of Pumps 2 V/PH/FLA \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Mfg. BELL & CROSSETT Model \_\_\_\_\_ HP 1/4 1/2 RPM 1750

HW Pump Starter: ☐ HOA ☐ Reset P/B ☐ S/S Push Button Interlocked with Boiler? ☐ Yes ☐ No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. \_\_\_\_\_ Model \_\_\_\_\_

Condensate Pumps/Hot Water Pumps: Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_

Boiler/Furnace Condition: \_\_\_\_\_

Describe 1 BT WITH SET PT. 116

OF SET POINT 94 40° = A LOCKOUT

Occupant Discomfort (Evaluate): \_\_\_\_\_

HEATING EQUIPMENT

LOCATION Flt  
BLDG. NO. 190

3.2 COOLING EQUIPMENT

COMPRESSOR(S)/CHILLER

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Size \_\_\_\_\_  
Refrigerant \_\_\_\_\_  
Motor HP (if available) \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

CONDENSER/CONDENSING UNIT

Water Cooled \_\_\_\_\_  
Air Cooled \_\_\_\_\_  
Evaporative \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Size \_\_\_\_\_  
Type of Fan \_\_\_\_\_  
Fan Motor HP \_\_\_\_\_  
Fan Motor Voltage \_\_\_\_\_  
Fan Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity, Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

REMARKS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

COOLING TOWER

Gravity \_\_\_\_\_  
Mech. Draft \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Type of Fan \_\_\_\_\_  
Fan RPM \_\_\_\_\_  
Fan Motor HP \_\_\_\_\_  
Fan Motor Voltage \_\_\_\_\_  
Fan Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

CHILLED WATER PUMPS (If more than one, how many operate during normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

COOLING EQUIPMENT

### 3.3 AIR HANDLING EQUIPMENT

LOCATION File  
BLDG. NO. 190

#### FANS

Type				
Unit/Zone	# <u>AZ-1</u>	# <u>AZ-2</u>	#	#
Manufacturer	<u>FEDDECS</u>	<u>FEDDECS</u>		
Model No.	<u>CTL060C8A</u>	<u>CTL090P8F</u>		
Type	<u>PACKAGED</u>	<u>PACKAGED</u>		
RPM of Fan				
Motor HP	<u>3/4</u>	<u>1</u>		
Motor Volts	<u>208</u>	<u>208</u>		
Motor FLA	<u>6.4</u>	<u>17.1</u>		
Measured Amps	<u>20 (20mA)</u>	<u>33 (33mA)</u>		
CFM (from Plans)				
Notes				

#### COILS

Indicate capacities where found:

COOLING		HUMIDIFICATION	
DX <u>✓</u>		ELEC	
H <sub>2</sub> O		STEAM	
OTHER		H <sub>2</sub> O	
HEATING		OTHER	
GAS		AUX/MISC OTHER	
H <sub>2</sub> O <u>✓</u>			
ELEC			
OTHER			

#### FILTERS

Type			
Condition			
Manometer Reading <u>1/</u>			

1/ Record only if manometer is installed on the unit.

AIR HANDLING EQUIPMENT

### 3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

LOCATION Fth  
BLDG. NO. 190

- a. Is System Supported from (check one): ☐ Central Plant ☒ One System per Building  
☐ Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: \_\_\_\_\_ °F \_\_\_\_\_ °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:  
1" SD PT
- d. Is Piping System Insulated and Condition: NO
- e. Is Hot Water Circulated? NO
- 1) Condition of circulator \_\_\_\_\_ 3) Is aquastat provided? \_\_\_\_\_  
2) Circulator capacity \_\_\_\_\_ 4) Aquastat temperature setting \_\_\_\_\_

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- |  |                       |            |       |
|--|-----------------------|------------|-------|
| a. Location                                | <u>MECH RM</u>        | _____      | _____ |
| b. Areas Served                            | _____                 | _____      | _____ |
| c. Manufacturer and Model                  | <u>NATIONAL HSG-6</u> | _____      | _____ |
| d. Energy (Oil, Gas, Electric, Coal, Etc.) | <u>ELEC</u>           | _____      | _____ |
| e. Type Heaters & Quantities:              |                       |            |       |
| 1) Storage                                 | _____                 | _____      | _____ |
| 2) Instantaneous                           | _____                 | _____      | _____ |
| 3) Semi-Instantaneous                      | _____                 | _____      | _____ |
| f. Heater Size and Storage Capacity        | <u>6 GPM</u>          | _____      | _____ |
| g. Heating Capacity                        | <u>1.25 Kw</u>        | _____      | _____ |
| h. Type Controls (Air, Steam, Electric)    | _____                 | _____      | _____ |
| i. When Installed & Condition              | _____                 | _____      | _____ |
| j. Heater Temperature Setting              | _____                 | _____      | _____ |
| k. Average Water Maintained Temperature    | _____                 | _____      | _____ |
| l. Temperature Differential (j) - (k)      | _____                 | _____      | _____ |
| m. Is Hot Water Supply Adequate:           | _____                 | _____      | _____ |
| n. Insulation Thickness                    | _____                 | Type _____ | _____ |
| o. Insulation Material                     | _____                 | _____      | _____ |

DOMESTIC HOT WATER SYSTEM/EQUIPMENT



LOCATION F12  
BLDG. NO. 190

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

CONTROL SYSTEM:

CONTROLLERS:

☐

ELECTRIC

☐

PNEUMATIC

☐

ELECTRONIC

OPERATION:

☐

MANUAL

☐

CONTINUOUS

☐

DEMAND

☒

TIME CLOCK

☐

EMCS

MFG Boiler BARBER COLEMAN MODEL \_\_\_\_\_ LOCATION Mechanical RM

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

0530 → 1900 7 DAY / WEEK

1 MASTER CONTROLLER } AC CLIM  
2 ZONE CONTROLS

CONTROL/MISCELLANEOUS PROCESS/SKETCHES

190

LOCATION FXK

BLDG.

LIGHTING

4142 S F 2/35 1

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT <sup>2</sup> )	WATTS PER SQ. FT.	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS	FINISH	WINDOW CODE	REMARKS (LIGHTS/SWITCH)
2	R	F	1/35	1												
64	S	F	2/35	2												
64	S	F	2/35	2												
	R	I	1/60	2												
64	S	F	2/35	1												
64	S	F	2/35	1												
1	S	F	2/35	2												
	R	I	1/60	2												
8	R	F	2/35	1												
8	R	F	2/35	1												
16	S	I	1/60	16												
TOTAL BUILDING LIGHTING ENERGY																

LIGHTING LEGEND:

Window Code:  
If there are windows, indicate:  
Curtains = C  
Shades = S  
No Shading = NS

Lamp Types:  
Incandescent = I  
Fluorescent = F  
Sodium Vapor = SV  
Mercury Vapor = MV  
Metal Halide = MH  
Other--Describe

Tasks Code:  
1 = Corridors  
2 = Kitchens  
3 = Dining  
4 = Offices-general  
5 = Offices-bookkeeping (ledgers only)  
6 = Offices-drafting  
7 = Laundry  
8 = Toilets  
9 = Sleeping quarters  
10 = Supply rooms  
11 = Repair shops  
12 = Storage room  
13 = Retail store (PX, commissary)  
Other (describe on audit form)  
E = Exterior

LOCATION File  
BLDG. NO. 190

4.2 LIGHTING (continued)

4.2.2 Exterior Lighting

ACTUAL NO. OF FIXTURES	TYPE OF FIXTURE	NO. OF FIXTURES IN USE	WATTS/ FIXTURE	TOTAL WATTS	CONTROL TYPE*	REMARKS
<u>11</u>	<u>FLOOR</u>		<u>75</u>			

\* M = Manual    T = Timer    P = Photocell    Enter schedule under Remarks.

CALCULATIONS

WATTS OF INTERIOR LIGHTING

Actual at time of survey \_\_\_\_\_

Total installed \_\_\_\_\_

WATTS OF EXTERIOR LIGHTING

Actual on at time of survey \_\_\_\_\_

Total installed \_\_\_\_\_

LIGHTING-EXTERIOR

LOCATION FHC  
BLDG. NO. 190

#### 4.3 POWER USAGE SURVEY

##### 4.3.1 CRITICAL LOAD (Computer, Communications)

Describe: COMPUTER X 2

4.3.2 RECEPTACLES IN USE 80 PERCENT

##### 4.3.3 SMALL APPLIANCES IN USE (ENTER COUNT)

Water Cooler \_\_\_\_\_

Vending Machine \_\_\_\_\_

Space Heater \_\_\_\_\_

Coffee Pot 2

TV 1

XEROX \_\_\_\_\_

Other:

RENA \_\_\_\_\_

MICROWAVE \_\_\_\_\_

STEREO SYST \_\_\_\_\_

POWER USAGE SURVEY

4.3

# 2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FH SURVEYED BY RUB/BIH DATE 05 92  
 BUILDING NUMBER 197 FUNCTION/USE ADMIN/RTD  
 INFORMATION SOURCE (DWG. NO./PERSON) SURVEY

## GENERAL BUILDING DATA

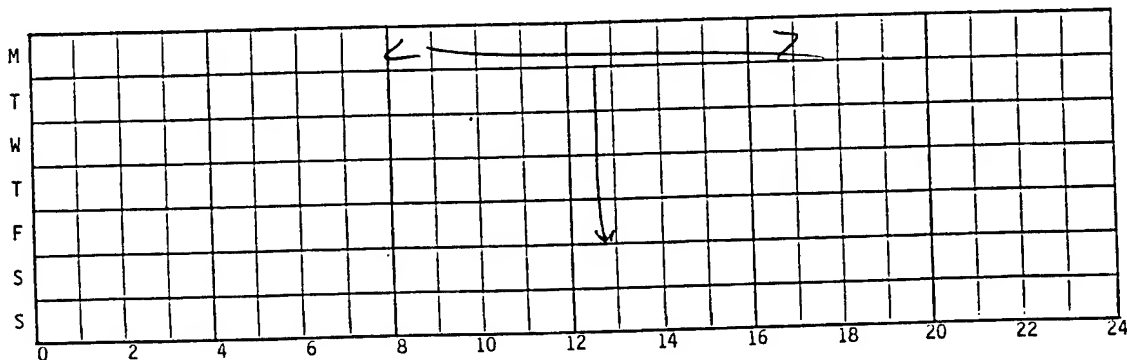
BUILDING AGE: 020 YEARS

DUPLICATE BUILDING NOS: \_\_\_\_\_ TOTAL: \_\_\_\_\_

SIMILAR BUILDING NOS: \_\_\_\_\_ TOTAL: \_\_\_\_\_

BUILDING OCCUPANCY: \_\_\_\_\_ CONTINUOUS (24 HRS/DAY) ☐ NO. OF OCCUPANTS 20

Indicate (number and) duration of occupants each day



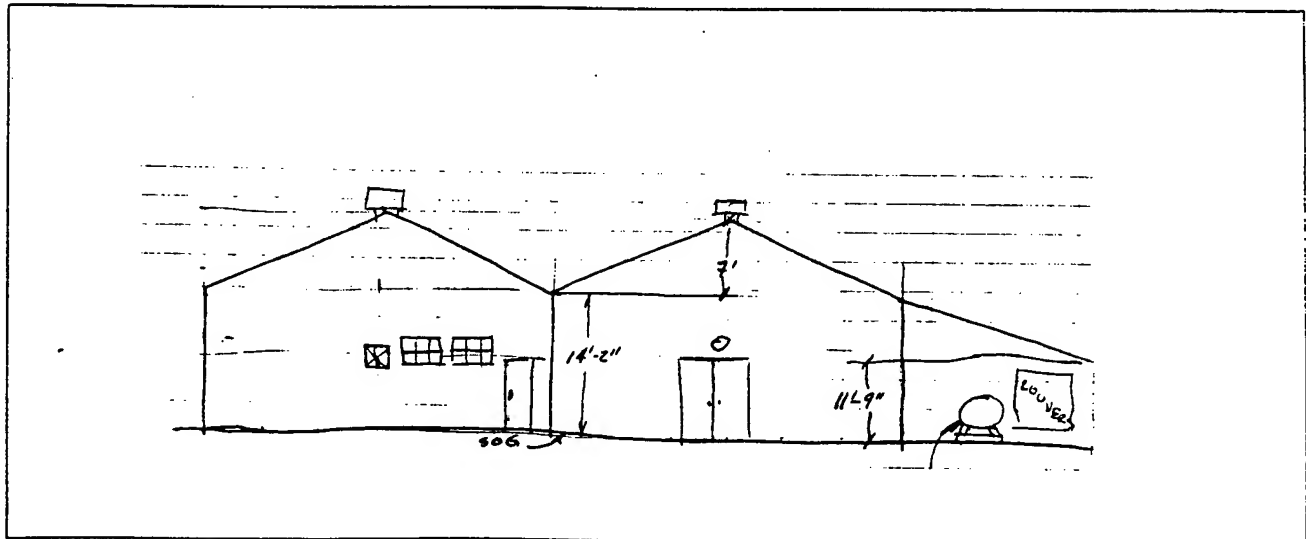
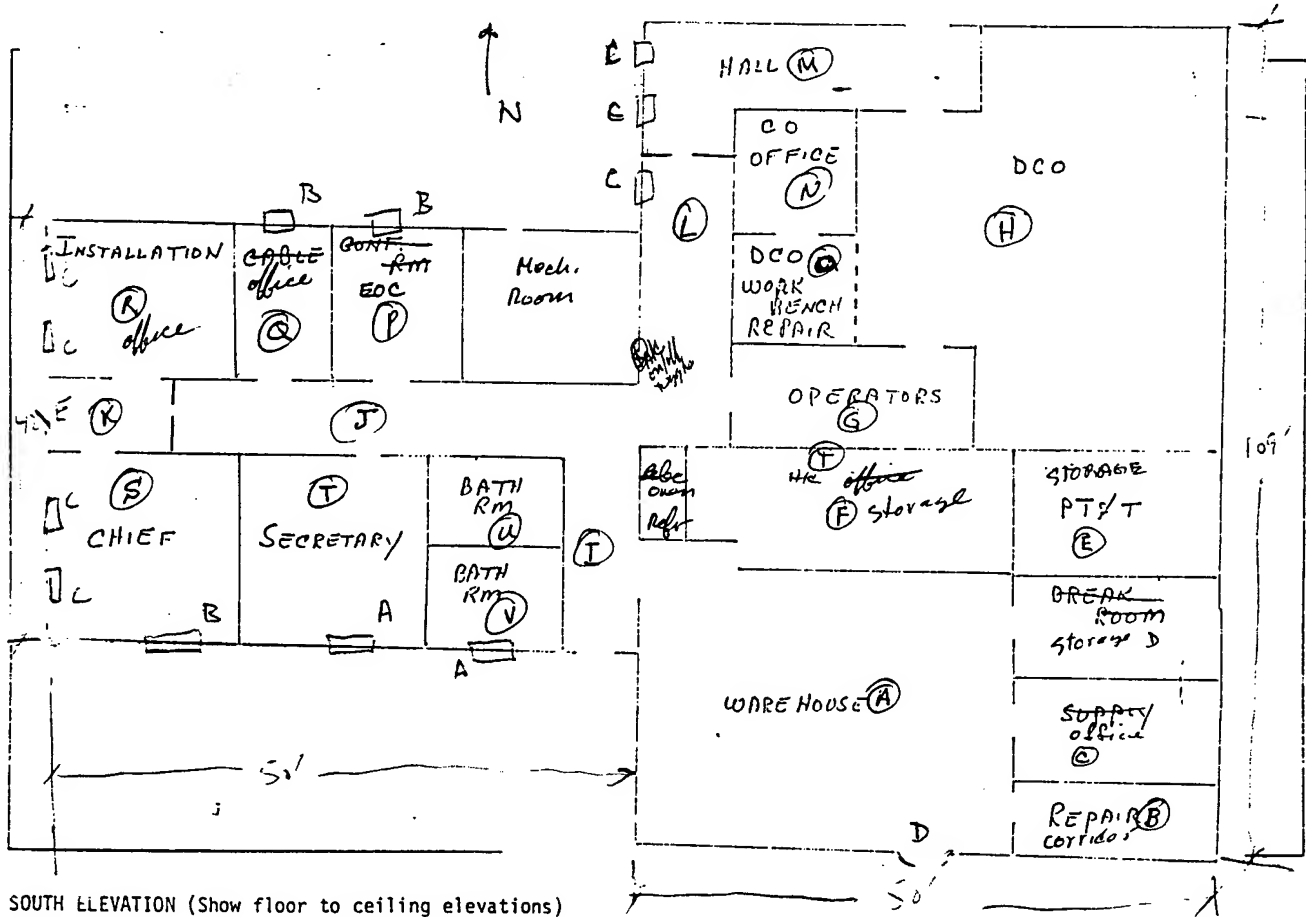
MISCELLANEOUS EQUIPMENT: \_\_\_\_\_  
WALK-IN COLD BOX 208V/1P/11.5A MARS.  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

ADDITIONAL COMMENTS, CRITICAL LOADS: \_\_\_\_\_  
EMERGENCY GENERATOR 100kW, 240/480V, 1800 RPM  
GENERAL MIN 440FDRS 01766-AGIS  
 \_\_\_\_\_  
 \_\_\_\_\_

CRAWL SPACE: VENTILATED ☒ EXHAUSTED ☐

ATTIC: VENTILATED ☐ EXHAUSTED ☐

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES



BUILDING FLOOR PLAN AND ELEVATION SKETCHES

	TOTAL AREA	U-VALUE

*GLAZING:	**FRAME:	***SHADING:	****VISIBILITY:	*****WINDOW TYPES:
1 - ORDINARY	W - WOOD	A - SOLAR FILM	E - AWNING	1 - DOUBLE HUNG
2 - 1" PLATE	M - METAL	B - VEN BLIND	F - SOLAR SCREEN	2 - SINGLE HUNG
3 - HEAT ABSORBING	T - METAL/THERMAL BREAK	C - STORM WINDOW	G - OVERHANG	3 - SLIDING
4 - TINTED		D - DRAPES	OTHER - SPECIFY	4 - CASEMENT
				5 - LOUVERED
				6 - FIXED GLASS

2.4 BUILDING ENVELOPE

LOCATION Flt  
BLDG. NO. 197

CONSTRUCTION

WALL  COLOR: D ☐ M ☒ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
COLORED ALUMINUM		
R-11		
Air space		
GYP BRD		
INSIDE FILM		

TOTAL

U-FACTOR  AREA

ROOF (INCL. CLG.)

TYPE: F ☐ P ☒  
COLOR: D ☐ M ☒ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
COLORED ALUMINUM		
Air space		
R-11		
ACROSTIC TILE		
INSIDE FILM		

TOTAL

U-FACTOR  AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		

TOTAL

U-FACTOR  AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		

TOTAL

U-FACTOR  AREA

BUILDING SKIRTING MATERIAL



## 3.1 HEATING EQUIPMENT

LOCATION Flt  
BLDG. NO. 197

PROP Heat/Cool Unit

Heat Source:

☐ Furnace ☐ Steam Boiler ☐ Hot Water Boiler ☐ Heat Pump ☐ Supplied Steam or Hot Water (External Boiler Plant) ☒ Other \_\_\_\_\_Capacity: 264 MBtu/Hr <sup>ONT</sup> or \_\_\_\_\_ Boiler HP or \_\_\_\_\_ Lbs/Hr Steam or \_\_\_\_\_ GPM Hot WaterManufacturer: LENNOX Model No.: \_\_\_\_\_Boiler/Furnace Control: ☐ Manual ☐ Time Clock ☐ Demand ☐ EMCS ☐ O<sub>2</sub> Trim

Operating Temperature: \_\_\_\_\_ °F Operating Pressure: \_\_\_\_\_ PSI

Fuel: ☐ Nat. Gas Only ☐ Nat. Gas/ \_\_\_\_\_ Draft: ☐ Forced  
☒ Other (Specify) PROPANE ☐ InducedBurner: Mfg. \_\_\_\_\_ Model No. \_\_\_\_\_ Metering Equipment: ☐ Yes ☐ No

Operating Schedule: Weekdays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

Weekdays &amp; Holidays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

Operating Season: From \_\_\_\_\_ Mon/Day, to \_\_\_\_\_ Mon/Day

Flue Gas Temperature: \_\_\_\_\_ °F Receiver Tank Conditions: \_\_\_\_\_ PSIG \_\_\_\_\_ °F

If supplied Steam or Hot Water: Steam Pressure \_\_\_\_\_ PSI Hot Water Supply Temp. \_\_\_\_\_ °F Hot Water Return Temp. \_\_\_\_\_ °F

Insulation: (1) Boiler (2) Other (Specify) \_\_\_\_\_  
Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup> Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>  
None ☐ Temp. \_\_\_\_\_ °F None ☐ Temp. \_\_\_\_\_ °F

Pump: No. of Pumps \_\_\_\_\_ V/PH/FLA \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_ RPM \_\_\_\_\_

HW Pump Starter: ☐ HOA ☐ Reset P/B ☐ S/S Push Button Interlocked with Boiler? ☐ Yes ☐ No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. \_\_\_\_\_ Model \_\_\_\_\_

Condensate Pumps/Hot Water Pumps: Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_

Boiler/Furnace Condition: \_\_\_\_\_

Describe \_\_\_\_\_

Occupant Discomfort (Evaluate): \_\_\_\_\_

HEATING EQUIPMENT

3.1

LOCATION FH  
BLDG. NO. 197

3.2 COOLING EQUIPMENT

PACKAGED HEAT/COOL UNIT

COMPRESSOR(S)/CHILLER

Manufacturer LENNDX  
Model No. \_\_\_\_\_  
Size \_\_\_\_\_  
Refrigerant R-22  
Motor HP (if available) \_\_\_\_\_  
Motor Voltage 208V/3P  
Motor FLA 46.7  
Measured Amps \_\_\_\_\_

CONDENSER/CONDENSING UNIT

Water Cooled \_\_\_\_\_  
Air Cooled \_\_\_\_\_  
Evaporative \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Size \_\_\_\_\_  
Type of Fan COND.  
Fan Motor HP 2E 3/4HP  
Fan Motor Voltage 208V  
Fan Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

CONDENSER WATER PUMPS

(If more than one, how many operate on normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity, Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

COOLING TOWER

Gravity \_\_\_\_\_  
Mech. Draft \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Type of Fan \_\_\_\_\_  
Fan RPM \_\_\_\_\_  
Fan Motor HP \_\_\_\_\_  
Fan Motor Voltage \_\_\_\_\_  
Fan Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

CHILLED WATER PUMPS (If more than one, how many  
operative during normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

REMARKS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

COOLING EQUIPMENT

### 3.3 AIR HANDLING EQUIPMENT

LOCATION F7C  
BLDG. NO. 197

#### FANS

Type			
Unit/Zone	# OFFICES	# ELECTRONICS AREA	#
Manufacturer	LENOVO	NO NAMEPLATE	
Model No.	0331333350		
Type	PERMANENT		
RPM of Fan	261 MBH output		
Motor HP	5		
Motor Volts	208V/3Ø		
Motor FLA	14		
Measured Amps		208V/3Ø/3.4A	
CFM (from Plans)			
Notes		ELECTRIC DUCT FTR	
		220V/60Hz/3Ø/43 FLA	

#### COILS

Indicate capacities where found:

COOLING	HUMIDIFICATION
DX <input checked="" type="checkbox"/>	ELEC
H <sub>2</sub> O	STEAM
OTHER	H <sub>2</sub> O
HEATING	OTHER
GAS	AUX/MISC OTHER
H <sub>2</sub> O	
ELEC	
OTHER	

#### FILTERS

Type			
Condition			
Manometer Reading 1/			

1/ Record only if manometer is installed on the unit.

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

- a. Is System Supported from (check one): ☐ Central Plant ☒ One System per Building  
☐ Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: 110 °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:  
1" 32 FT
- d. Is Piping System Insulated and Condition: NO INSULATION
- e. Is Hot Water Circulated? NO
- 1) Condition of circulator NA 3) Is aquastat provided? NA
- 2) Circulator capacity NA 4) Aquastat temperature setting NA

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- |  |                          |      |  |
|--|--------------------------|------|--|
| a. Location                                |                          |      |  |
| b. Areas Served                            | <u>ALL</u>               |      |  |
| c. Manufacturer and Model                  | <u>SEARS 183.32 4611</u> |      |  |
| d. Energy (Oil, Gas, Electric, Coal, Etc.) | <u>ELECTRIC</u>          |      |  |
| e. Type Heaters & Quantities:              |                          |      |  |
| 1) Storage                                 |                          |      |  |
| 2) Instantaneous                           |                          |      |  |
| 3) Semi-Instantaneous                      |                          |      |  |
| f. Heater Size and Storage Capacity        | <u>5.5 KW</u>            |      |  |
| g. Heating Capacity                        | <u>52 GAL</u>            |      |  |
| h. Type Controls (Air, Steam, Electric)    | <u>ELECTRIC</u>          |      |  |
| i. When Installed & Condition              | <u>NFD</u>               |      |  |
| j. Heater Temperature Setting              |                          |      |  |
| k. Average Water Maintained Temperature    |                          |      |  |
| l. Temperature Differential (j) - (k)      |                          |      |  |
| m. Is Hot Water Supply Adequate:           |                          |      |  |
| n. Insulation Thickness                    |                          | Type |  |
| o. Insulation Material                     |                          |      |  |

8' lamps F96T12 CWIES Phillips Economy Saver  
Pendants - 18" from ceil

# LIGHTING

LOCATION

FTH

BLDG.

YAT

## 4.2.1 Interior Lighting

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT <sup>2</sup> )	WATTS PER SQ. FT.	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS	FINISH	WINDOW CODE	REMARKS (LIGHTS/SWITCH)
(A) 10	P Industrial	F96T12 CWIES	3	13							60	12'-0"	LLD	F S	NA	4 have 1 lamp
(B) 1				4							40	12'-0"	"	"	PA	2 have 1 lamp 1 disconnector
(C) 4				2							20	12'-0"	"	"	PA	1 has 2 lamps on purpose
(D) 12				4							20	12'-0"	"	"	PA	2 have 1 lamp
(E) 12				2							35	12'-0"	"	"	NA	
(F) 12				2							-	12'-0"	"	"	NA	
(G) 4			2	2							38	12'-0"	"	"	NA	
(H)			2	16							40	12'-0"	"	"	PB	4 Lx lamps not used
(I) 1	S	F96T12 CWIES	1/60	1							-	9'-0"				
(J) 1	S	F96T12 CWIES	1/50	4							-	9'-0"				
(K) 1	S	F34	1/34	1							-	9'-0"				
TOTAL BUILDING LIGHTING ENERGY																

## LIGHTING LEGEND:

### Fixture Types:

Recessed = R  
Suspended = S  
Ventilated = V  
Pole Mounted = PM  
Other--Describe

### Lamp Types:

Incandescent = I  
Fluorescent = F  
Sodium Vapor = SV  
Mercury Vapor = MV  
Metal Halide = MH  
Other--Describe

### Window Code:

If there are windows, indicate:  
Curtains = C  
Shades = S  
No Shading = NS

### Tasks Code:

1 = Corridors  
2 = Kitchens  
3 = Dining  
4 = Offices-general  
5 = Offices-bookkeeping (ledgers only)  
6 = Offices-drafting  
7 = Laundry  
8 = Toilets  
9 = Sleeping quarters  
10 = Supply rooms  
11 = Repair shops  
12 = Storage room  
13 = Retail store (px, commissary)  
Other (describe on audit form)  
E = Exterior

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BLDG.

LOCATION

LIGHTING

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT <sup>2</sup> )	WATTS PER SQ. FT.	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS	FINISH	WINDOW CODE	REMARKS (LIGHTS/SWITCH)
②1	P	F96 T12	2	1							35	12'-0"	L D F F S	NA	NA	
②1	P	"	2	2							40	12'-0"	"	"	S	
②4	S	F 34	2	3							50	7'-6"	"	"	NA	New fixtrs 1 out
②4	P	F96 T12	2	1							45	12'-0"	"	"	NA	
②4	S	F 34	2	4							35	9'-0"	"	"	S	New fixtrs 2 out
②4	S	F 34	2	4							40		"	"	S	1 out
②4	S	F 34	2	4							45		"	"	S	<del>1 out</del>
②4	S	F 34	2	4							45		"	"	S	1 out
②4	S	F 34	2	3							20		"	"	S	
②8	S	I 50	1/50	4							-		"	"	NA	
②8	S	I 50	1/50	2							-		"	"	NS	
TOTAL BUILDING LIGHTING ENERGY																

LIGHTING LEGEND:

- Fixture Types:
- Recessed = R
  - Suspended = S
  - Ventilated = V
  - Pole Mounted = PM
  - Other--Describe
- Lamp Types:
- Incandescent = I
  - Fluorescent = F
  - Sodium Vapor = SV
  - Mercury Vapor = MV
  - Metal Halide = MH
  - Other--Describe
- Window Code:
- If there are windows, indicate:
- Curtains = C
  - Shades = S
  - No Shading = NS
- Tasks Code:
- 1 = Corridors
  - 2 = Kitchens
  - 3 = Dining
  - 4 = Offices-general
  - 5 = Offices-bookkeeping (ledgers only)
  - 6 = Offices-drafting
  - 7 = Laundry
  - 8 = Toilets
  - 9 = Sleeping quarters
  - 10 = Supply rooms
  - 11 = Repair shops
  - 12 = Storage room
  - 13 = Retail store (PX, commissary)
  - Other (describe on audit form)
  - E = Exterior

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172

LOCATION \_\_\_\_\_

LIGHTING LEGEND:

**Lamp Types:**

Incandescent	= I
Fluorescent	= F
Sodium Vapor	= SV
Mercury Vapor	= MV
Metal Halide	= MH
Other--Describe	

**Window Code:**  
If there are windows,  
indicate:  
Curtains = C  
Shades = S  
No Shading = NS

**Tasks Code:**

1 = Corridors	6 = Offices-drafting	12 = Storage room
2 = Kitchens	7 = Laundry	13 = Retail store
3 = Dining	8 = Toilets	(PX, commissary)
4 = Offices-general	9 = Sleeping quarters	Other (describe on
5 = Offices-bookkeeping	10 = Supply rooms	audit form)
(ledgers only)	11 = Repair shops	E = Exterior

## 2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHL SURVEYED BY RJB/B14 DATE 5 OCT 92  
 BUILDING NUMBER 198 FUNCTION/USE Laundry / Dry Cleaning  
 INFORMATION SOURCE (DWG. NO./PERSON) \_\_\_\_\_

### GENERAL BUILDING DATA

*85°F inside*

BUILDING AGE: \_\_\_\_\_ YEARS New

DUPLICATE BUILDING NOS: \_\_\_\_\_

TOTAL: \_\_\_\_\_

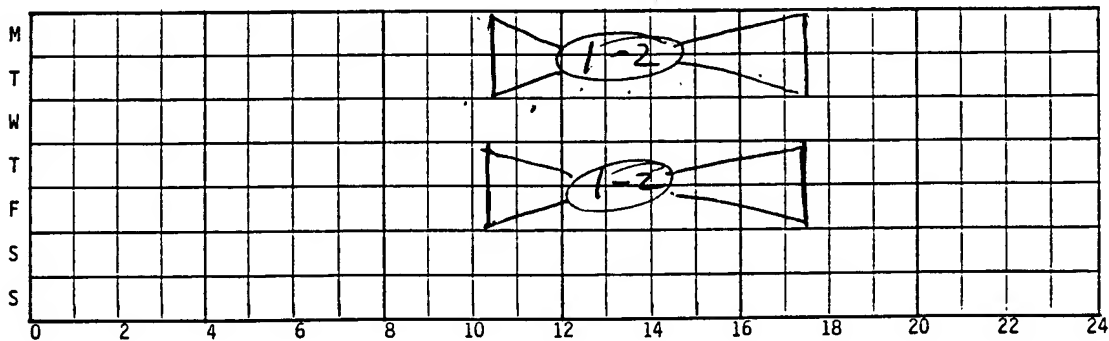
SIMILAR BUILDING NOS: 191 @ architecture, also 209

TOTAL: \_\_\_\_\_

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) ☐

NO. OF OCCUPANTS \_\_\_\_\_

Indicate (number and) duration of occupants each day



MISCELLANEOUS EQUIPMENT: TV, Stereo

Bathroom ex. fan 1/15 AP

ADDITIONAL COMMENTS, CRITICAL LOADS: \_\_\_\_\_

CRAWL SPACE: VENTILATED ☐ EXHAUSTED ☐ SOB

ATTIC: VENTILATED ☐ EXHAUSTED ☐

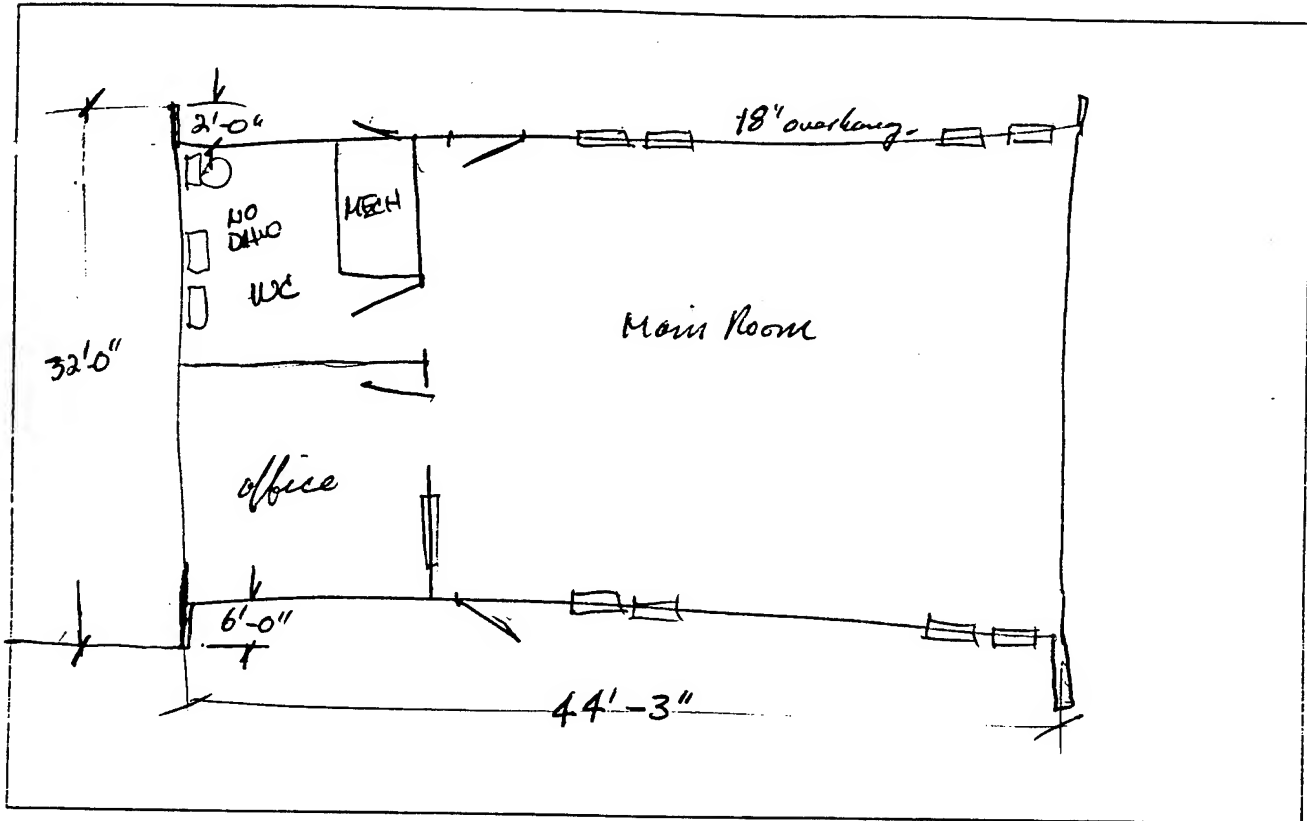
ARCHITECTURE--MISCELLANEOUS



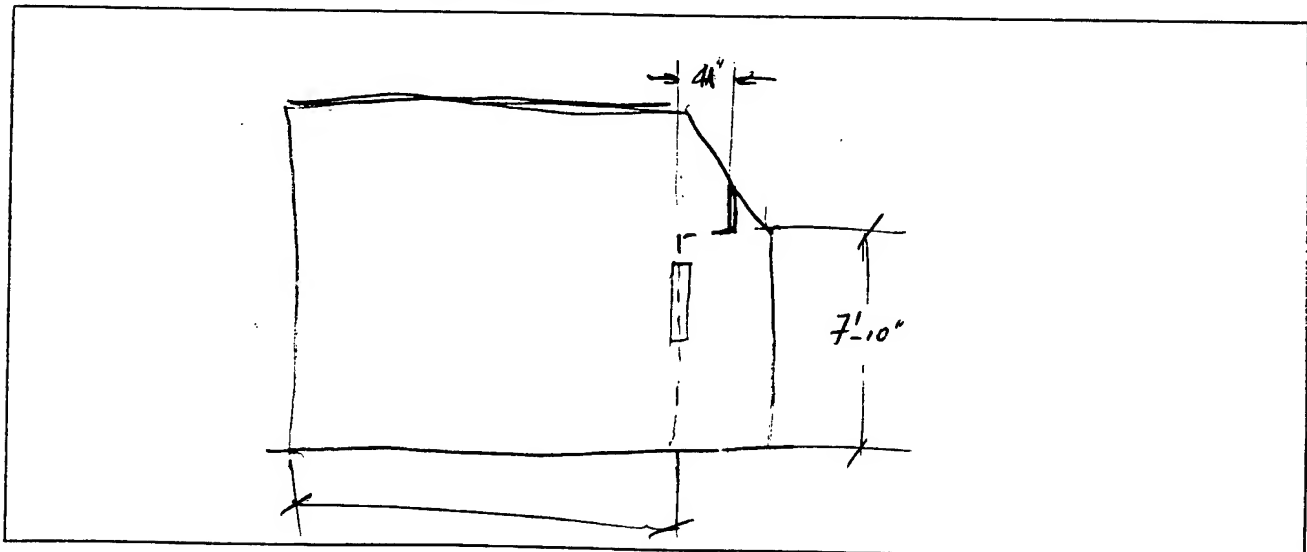
2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

LOCATION Flt  
BLDG. NO. 198

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



BUILDING FLOOR PLAN AND  
ELEVATION SKETCHES

LOCATION FH  
BLDG. NO. 198

[illegible]

LEGEND:

*GLAZING:	**FRAME:
1 - ORDINARY	W - WOOD
2 - 1" PLATE	M - METAL
3 - HEAT ABSORBING	T - METAL/THERMAL BREAK
4 - TINTED	

**\*\*\*SHADING:**

A - SOLAR FILM  
B - VEN BLIND  
C - STORM WINDOW  
D - DRAPES

\*\*\*VISIBILITY:  
E - AWNING  
F - SOLAR SCREEN  
G - OVERHANG  
OTHER - SPECIFY

WINDOW TYPES:		
1 -	DOUBLE HUNG	4 - CASEMENT
2 -	SINGLE HUNG	5 - LOUVERED
3 -	SLIDING	6 - FIXED GLASS

## 2.4 BUILDING ENVELOPE

LOCATION FTH  
BLDG. NO. 198

## CONSTRUCTION

WALL

COLOR: D

☐

M

☐

L

☒

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
Stucco	5/8"	
1/2" Plywood	1/2"	
FG Insulation	-	R-11
Gyp Board	5/8	
INSIDE FILM		
TOTAL		

U-FACTOR

AREA

FLOOR

SOG

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
SOG		
Lino		
INSIDE FILM		
TOTAL		

U-FACTOR

AREA

BUILDING SKIRTING MATERIAL

None

## ROOF (INCL. CLG.)

TYPE: F

☐

P

☐

COLOR: D

☐

M

☒

L

☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
PLYWOOD DECK	1/2"	
R-19 INSUL		
Built-up roof		
INSIDE FILM		
TOTAL		

U-FACTOR

AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
Wood	1/2"	
Gypsum	1 3/8"	
INSIDE FILM		
TOTAL		

U-FACTOR

AREA

LOCATION Flr  
BLDG. NO. 198

3.1 HEATING EQUIPMENT

Heat Source:  
☒ Furnace ☐ Steam Boiler ☐ Hot Water Boiler ☐ Heat Pump ☐ Supplied Steam or Hot Water (External Boiler Plant) ☐ Other \_\_\_\_\_

Capacity: 100 MBH IN  
80 MBH Btu/Hr or \_\_\_\_\_ Boiler HP or \_\_\_\_\_ Lbs/Hr Steam or \_\_\_\_\_ GPM Hot Water

Manufacturer: TAPPAN Model No.: UGI 100 D 13 E  
SELLAC 478 F 11197

Boiler/Furnace Control: ☐ Manual ☒ Time Clock ☐ Demand ☐ EMCS ☐ O<sub>2</sub> Trim  
24 Hr

Operating Temperature: 190° OUTLET AIR °F Operating Pressure: \_\_\_\_\_ PSI

Fuel: ☐ Nat. Gas Only ☐ Nat. Gas/ \_\_\_\_\_ Draft: ☐ Forced ☐ Induced  
☒ Other (Specify) PROPANE

Burner: Mfg. \_\_\_\_\_ Model No. \_\_\_\_\_ Metering Equipment: ☐ Yes ☐ No

Operating Schedule: Weekdays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day  
Weekdays & Holidays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day  
Operating Season: From \_\_\_\_\_ Mon/Day, to \_\_\_\_\_ Mon/Day

Flue Gas Temperature: \_\_\_\_\_ °F Receiver Tank Conditions: \_\_\_\_\_ PSIG \_\_\_\_\_ °F

If supplied Steam or Hot Water: Steam Pressure \_\_\_\_\_ PSI Hot Water Supply Temp. \_\_\_\_\_ °F Hot Water Return Temp. \_\_\_\_\_ °F  
N/A

Insulation: (1) Boiler (2) Other (Specify) \_\_\_\_\_  
Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup> Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>  
None ☐ Temp. \_\_\_\_\_ °F None ☐ Temp. \_\_\_\_\_ °F

Pump: No. of Pumps \_\_\_\_\_ V/PH/FLA \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_ RPM \_\_\_\_\_  
HW Pump Starter: ☐ HOA ☐ Reset P/B ☐ S/S Push Button Interlocked with Boiler? ☐ Yes ☐ No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. \_\_\_\_\_ Model \_\_\_\_\_

Condensate Pumps/Hot Water Pumps: Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_

Boiler/Furnace Condition: \_\_\_\_\_

Describe 1/3 HP FAN MOTOR 8.5 AMP

Occupant Discomfort (Evaluate): 115 V 1/2 60 HZ

3.2 COOLING EQUIPMENTLOCATION FIR  
BLDG. NO. 173COMPRESSOR(S)/CHILLER

Manufacturer	_____	_____
Model No.	_____	_____
Size	_____	_____
Refrigerant	_____	_____
Motor HP (if available)	_____	_____
Motor Voltage	_____	_____
Motor FLA	_____	_____
Measured Amps	_____	_____

CONDENSER/CONDENSING UNIT

Water Cooled	_____	_____
Air Cooled	_____	_____
Evaporative	_____	_____
Manufacturer	_____	_____
Model No.	_____	_____
Size	_____	_____
Type of Fan	_____	_____
Fan Motor HP	_____	_____
Fan Motor Voltage	_____	_____
Fan Motor FLA	_____	_____
Measured Amps	_____	_____

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: \_\_\_\_\_)

Manufacturer	_____	_____	_____
Model No.	_____	_____	_____
Capacity, Gals.	_____	_____	_____
Head, Ft.	_____	_____	_____
Motor HP	_____	_____	_____
Motor Voltage	_____	_____	_____
Motor FLA	_____	_____	_____
Measured Amps	_____	_____	_____

COOLING TOWER

Gravity	_____	_____
Mech. Draft	_____	_____
Manufacturer	_____	_____
Model No.	_____	_____
Type of Fan	_____	_____
Fan RPM	_____	_____
Fan Motor HP	_____	_____
Fan Motor Voltage	_____	_____
Fan Motor FLA	_____	_____
Measured Amps	_____	_____

CHILLED WATER PUMPS (If more than one, how many operate during normal operation: \_\_\_\_\_)

Manufacturer	_____	_____
Model No.	_____	_____
Capacity Gals.	_____	_____
Head, Ft.	_____	_____
Motor HP	_____	_____
Motor Voltage	_____	_____
Motor FLA	_____	_____
Measured Amps	_____	_____

REMARKS:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_COOLING EQUIPMENT

### 3.3 AIR HANDLING EQUIPMENT

LOCATION FH  
BLDG. NO. 198

#### FANS

Type	<u>SLAMP COOLER (4FT x 4FT x 4FT)</u>			
Unit/Zone	#	#	#	#
Manufacturer				
Model No.				
Type				
RPM of Fan				
Motor HP				
Motor Volts				
Motor FLA				
Measured Amps				
CFM (from Plans)				
Notes				

ALSO ZXCASILBLANCA FANS

#### COILS

Indicate capacities where found:

COOLING	HUMIDIFICATION
DX	ELEC
H <sub>2</sub> O	STEAM
OTHER	H <sub>2</sub> O
	OTHER
HEATING	AUX/MISC OTHER
GAS	
H <sub>2</sub> O	
ELEC	
OTHER	

#### FILTERS

Type			
Condition			
Manometer Reading 1/			

1/ Record only if manometer is installed on the unit.

LOCATION F12  
BLDG. NO. 193

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

- a. Is System Supported from (check one): ☐ Central Plant ☐ One System per Building  
☐ Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: \_\_\_\_\_ °F \_\_\_\_\_ °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- d. Is Piping System Insulated and Condition: \_\_\_\_\_
- e. Is Hot Water Circulated? \_\_\_\_\_  
1) Condition of circulator \_\_\_\_\_ 3) Is aquastat provided? \_\_\_\_\_  
2) Circulator capacity \_\_\_\_\_ 4) Aquastat temperature setting \_\_\_\_\_

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- |  |           |            |       |
|--|-----------|------------|-------|
| a. Location                                | _____     | _____      | _____ |
| b. Areas Served                            | _____     | _____      | _____ |
| c. Manufacturer and Model                  | _____     | _____      | _____ |
| d. Energy (Oil, Gas, Electric, Coal, Etc.) | <u>WA</u> | _____      | _____ |
| e. Type Heaters & Quantities:              |           |            |       |
| 1) Storage                                 | _____     | _____      | _____ |
| 2) Instantaneous                           | _____     | _____      | _____ |
| 3) Semi-Instantaneous                      | _____     | _____      | _____ |
| f. Heater Size and Storage Capacity        | _____     | _____      | _____ |
| g. Heating Capacity                        | _____     | _____      | _____ |
| h. Type Controls (Air, Steam, Electric)    | _____     | _____      | _____ |
| i. When Installed & Condition              | _____     | _____      | _____ |
| j. Heater Temperature Setting              | _____     | _____      | _____ |
| k. Average Water Maintained Temperature    | _____     | _____      | _____ |
| l. Temperature Differential (j) - (k)      | _____     | _____      | _____ |
| m. Is Hot Water Supply Adequate:           | _____     | _____      | _____ |
| n. Insulation Thickness                    | _____     | Type _____ | _____ |
| o. Insulation Material                     | _____     | _____      | _____ |

DOMESTIC HOT WATER SYSTEM/EQUIPMENT

LOCATION F12  
BLDG. NO. 198

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

CONTROL SYSTEM:

CONTROLLERS:

☐

ELECTRIC

☐

PNEUMATIC

☐

ELECTRONIC

OPERATION:

☒

MANUAL

☐

TIME CLOCK

☐

CONTINUOUS

☐

EMCS

☐

DEMAND

MFG \_\_\_\_\_ MODEL \_\_\_\_\_ LOCATION \_\_\_\_\_

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

SWAMP COOLER CONTROLLER BY ~~TEST~~ KILL SWITCH

CONTROL/MISCELLANEOUS PROCESS/SKETCHES



#### 4.2.1 Interior Lighting

## LIGHTING

241

98

[illegible]

LIGHTING LEGEND:

**Window Code:**

If there are windows,

**Lamp types.**  
Incandescent = I  
Fluorescent = F  
Sodium Vapor = SV  
Mercury Vapor = MV  
Metal Halide = MH  
Other--Describe

**Fixture Types:**  
 Recessed = R  
 Suspended = S  
 Ventilated = V  
 Pole Mounted = PM  
 Other--Describe

1 = Corridors	6 = Offices-drafting	12 = Storage room
2 = Kitchens	7 = Laundry	13 = Retail store
3 = Dining	8 = Toilets	(PX, commissary)
4 = Offices-general	9 = Sleeping quarters	Other (describe on
5 = Offices-bookkeeping	10 = Supply rooms	audit form)
(ledgers only)	11 = Repair shops	E = Exterior

LIGHTING  
4.2.1

LOCATION Fitz  
BLDG. NO. 190

#### 4.2 LIGHTING (continued)

##### 4.2.2 Exterior Lighting

ACTUAL NO. OF FIXTURES	TYPE OF FIXTURE	NO. OF FIXTURES IN USE	WATTS/ FIXTURE	TOTAL WATTS	CONTROL TYPE*	REMARKS
<u>2</u>	<u>S</u>	<u>2</u>	<u>60</u>		<u>M</u>	<u>never used</u> <u>lights</u>

\* M = Manual T = Timer P = Photocell Enter schedule under Remarks.

#### CALCULATIONS

##### WATTS OF INTERIOR LIGHTING

Actual at time of survey \_\_\_\_\_

Total installed \_\_\_\_\_

##### WATTS OF EXTERIOR LIGHTING

Actual on at time of survey \_\_\_\_\_

Total installed \_\_\_\_\_

LIGHTING-EXTERIOR

LOCATION Fth  
BLDG. NO. 198

#### 4.3 POWER USAGE SURVEY

##### 4.3.1 CRITICAL LOAD (Computer, Communications)

Describe: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

##### 4.3.2 RECEPTACLES IN USE \_\_\_\_\_ PERCENT

##### 4.3.3 SMALL APPLIANCES IN USE (ENTER COUNT)

Water Cooler	_____
Vending Machine	_____
Space Heater	_____
Coffee Pot	_____
TV	<u>1</u>
XEROX	_____
Other:	
<u>Stereo</u>	<u>1</u>
<u>Floor Fan</u>	<u>1</u>
<u>Ceiling Fan</u>	<u>1</u>
_____	_____

## 2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHL SURVEYED BY RCL/BIH/RJB DATE 1 OCT 92  
BUILDING NUMBER 206 FUNCTION/USE DINING FACILITY  
INFORMATION SOURCE (DWG. NO./PERSON) Inspection & Food Service Manager

### GENERAL BUILDING DATA

BUILDING AGE: \_\_\_\_\_ YEARS

DUPLICATE BUILDING NOS: NONE

TOTAL: \_\_\_\_\_

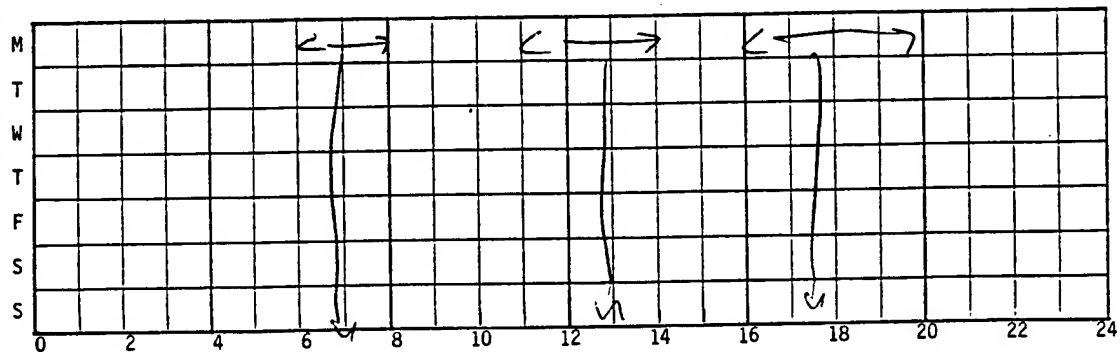
SIMILAR BUILDING NOS: NONE

TOTAL: \_\_\_\_\_

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) ☐

NO. OF OCCUPANTS 100

Indicate (number and) duration of occupants each day



MISCELLANEOUS EQUIPMENT: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

ADDITIONAL COMMENTS, CRITICAL LOADS: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

CRAWL SPACE: VENTILATED ☐ EXHAUSTED ☐

ATTIC: VENTILATED ☐ EXHAUSTED ☐

LOCATION PHC  
BLDG. NO. 206

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)

*Refer to Building Plans*

SOUTH ELEVATION (Show floor to ceiling elevations)

*Refer to building Plans*

BUILDING FLOOR PLAN AND  
ELEVATION SKETCHES

# 2.3 ARCHITECTURAL WINDOWS & DOORS

LOCATION Flt  
BLDG. NO. 206

DOOR/ WINDOW DESIG.	TYPE	NUMBER EXPOSURE								SIZE L x H	GLAZING*			TYPE OF FRAME**	INFILTRATION				REMARKS ***, ****
		N				S					TYPE	DBL	TRPL		W/S	FIT	CRACK LENGTH		
		N	NE	E	SE	S	SW	W	NW										
<i>Refer to RAUS</i>																			
										TOTAL AREA		U-VALUE							

## LEGEND :

- |                    |                         |                  |                  |                 |
|--------------------|-------------------------|------------------|------------------|-----------------|
| *GLAZING:          | **FRAME:                | ***SHADING:      | ****VISIBILITY:  | WINDOW TYPES:   |
| 1 - ORDINARY       | W - WOOD                | A - SOLAR FILM   | E - AWNING       | 1 - DOUBLE HUNG |
| 2 - 1/4" PLATE     | M - METAL               | B - VEN BLIND    | F - SOLAR SCREEN | 2 - SINGLE HUNG |
| 3 - HEAT ABSORBING | T - METAL/THERMAL BREAK | C - STORM WINDOW | G - OVERHANG     | 3 - SLIDING     |
| 4 - TINTED         |                         | D - DRAPES       | OTHER - SPECIFY  | 4 - CASEMENT    |
|                    |                         |                  |                  | 5 - LOUVERED    |
|                    |                         |                  |                  | 6 - FIXED GLASS |

# 2.4 BUILDING ENVELOPE

CONSTRUCTION @ Detail 1 sheet 70 As-Built

WALL  COLOR: D ☐ M ☐ L ☒

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
Stucco	1/2"	
Rigid Insul	1"	
Air Space	1"	
CMU	8"	
—		
INSIDE FILM		

TOTAL

U-FACTOR  AREA

FLOOR  SOG

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		

TOTAL

U-FACTOR  AREA

BUILDING SKIRTING MATERIAL

LOCATION FH

BLDG. NO. 206

TYPE: F ☐ P ☐

ROOF (INCL. CLG.) COLOR: D ☐ M ☐ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		

TOTAL

U-FACTOR  AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		

TOTAL

U-FACTOR  AREA

### 3.1 HEATING EQUIPMENT

LOCATION FTH  
BLDG. NO. 206

Heat Source:

☐ Furnace ☐ Steam Boiler ☒ Hot Water Boiler ☐ Heat Pump ☐ Supplied Steam or Hot Water (External Boiler Plant) ☐ Other \_\_\_\_\_

Capacity: 280 MBtu/Hr or \_\_\_\_\_ Boiler HP or \_\_\_\_\_ Lbs/Hr Steam or \_\_\_\_\_ GPM Hot Water

Manufacturer: \_\_\_\_\_ Model No.: D-3200-W-SN 46262

Boiler/Furnace Control: ☐ Manual ☒ Time Clock w/ ☒ Demand ☐ EMCS ☐ O<sub>2</sub> Trim

Operating Temperature: 175 °F Operating Pressure: \_\_\_\_\_ PSI

Fuel: ☐ Nat. Gas Only ☐ Nat. Gas/ \_\_\_\_\_

Draft: ☐ Forced

☒ Other (Specify) Propane

☐ Induced

Burner: Mfg. Furness Model No. DE 32P Metering Equipment: ☐ Yes ☒ No

Operating Schedule: Weekdays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

Weekdays & Holidays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

7 DAY/week

Operating Season: From \_\_\_\_\_ Mon/Day, to \_\_\_\_\_ Mon/Day

Flue Gas Temperature: \_\_\_\_\_ °F Receiver Tank Conditions: \_\_\_\_\_ PSIG \_\_\_\_\_ °F

If supplied Steam or Hot Water: Steam Pressure \_\_\_\_\_ PSI Hot Water Supply Temp. \_\_\_\_\_ °F Hot Water Return Temp. \_\_\_\_\_ °F

Insulation: (1) Boiler (2) Other (Specify) \_\_\_\_\_

Poor ☐ Area 8'-3 1/2' FT<sup>2</sup> Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>

None ☐ Temp. \_\_\_\_\_ °F None ☐ Temp. \_\_\_\_\_ °F

Pump: No. of Pumps 1 V/PH/FLA \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP 1/3 RPM \_\_\_\_\_

HW Pump Starter: ☐ HOA ☐ Reset P/B ☐ S/S Push Button Interlocked with Boiler? ☐ Yes ☐ No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. \_\_\_\_\_ Model \_\_\_\_\_

Condensate Pumps/Hot Water Pumps: Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_

Boiler/Furnace Condition: \_\_\_\_\_

Describe \_\_\_\_\_

Occupant Discomfort (Evaluate): \_\_\_\_\_

HEATING EQUIPMENT



# 3.2 COOLING EQUIPMENT

LOCATION 206  
 BLDG. NO. 194

## COMPRESSOR(S)/CHILLER

Manufacturer \_\_\_\_\_  
 Model No. \_\_\_\_\_  
 Size \_\_\_\_\_  
 Refrigerant \_\_\_\_\_  
 Motor HP (if available) \_\_\_\_\_  
 Motor Voltage \_\_\_\_\_  
 Motor FLA \_\_\_\_\_  
 Measured Amps \_\_\_\_\_

## CONDENSER/CONDENSING UNIT

Water Cooled \_\_\_\_\_  
 Air Cooled \_\_\_\_\_  
 Evaporative \_\_\_\_\_  
 Manufacturer \_\_\_\_\_  
 Model No. \_\_\_\_\_  
 Size \_\_\_\_\_  
 Type of Fan \_\_\_\_\_  
 Fan Motor HP \_\_\_\_\_  
 Fan Motor Voltage \_\_\_\_\_  
 Fan Motor FLA \_\_\_\_\_  
 Measured Amps \_\_\_\_\_

## COOLING TOWER

Gravity \_\_\_\_\_  
 Mech. Draft \_\_\_\_\_  
 Manufacturer \_\_\_\_\_  
 Model No. \_\_\_\_\_  
 Type of Fan \_\_\_\_\_  
 Fan RPM \_\_\_\_\_  
 Fan Motor HP \_\_\_\_\_  
 Fan Motor Voltage \_\_\_\_\_  
 Fan Motor FLA \_\_\_\_\_  
 Measured Amps \_\_\_\_\_

## CHILLED WATER PUMPS (If more than one, how many operative during normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
 Model No. \_\_\_\_\_  
 Capacity Gals. \_\_\_\_\_  
 Head, Ft. \_\_\_\_\_  
 Motor HP \_\_\_\_\_  
 Motor Voltage \_\_\_\_\_  
 Motor FLA \_\_\_\_\_  
 Measured Amps \_\_\_\_\_

## CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
 Model No. \_\_\_\_\_  
 Capacity, Gals. \_\_\_\_\_  
 Head, Ft. \_\_\_\_\_  
 Motor HP \_\_\_\_\_  
 Motor Voltage \_\_\_\_\_  
 Motor FLA \_\_\_\_\_  
 Measured Amps \_\_\_\_\_

REMARKS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

COOLING EQUIPMENT

### 3.3 AIR HANDLING EQUIPMENT

LOCATION Fth  
BLDG. NO. 206

#### FANS

Type	_____	_____	_____	_____
Unit/Zone	# _____	# _____	# _____	# _____
Manufacturer	_____	_____	_____	_____
Model No.	_____	_____	_____	_____
Type	_____	_____	_____	_____
RPM of Fan	_____	_____	_____	_____
Motor HP	_____	_____	_____	_____
Motor Volts	_____	_____	_____	_____
Motor FLA	_____	_____	_____	_____
Measured Amps	_____	_____	_____	_____
CFM (from Plans)	_____	_____	_____	_____
Notes	_____	_____	_____	_____

#### COILS

Indicate capacities where found:

##### COOLING

DX \_\_\_\_\_  
H<sub>2</sub>O \_\_\_\_\_  
OTHER \_\_\_\_\_

##### HUMIDIFICATION

ELEC \_\_\_\_\_  
STEAM \_\_\_\_\_  
H<sub>2</sub>O \_\_\_\_\_  
OTHER \_\_\_\_\_

##### HEATING

GAS \_\_\_\_\_  
H<sub>2</sub>O \_\_\_\_\_  
ELEC \_\_\_\_\_  
OTHER \_\_\_\_\_

##### AUX/MISC OTHER

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

#### FILTERS

Type	_____	_____	_____
Condition	_____	_____	_____
Manometer Reading <sup>1/</sup>	_____	_____	_____

<sup>1/</sup> Record only if manometer is installed on the unit.

AIR HANDLING EQUIPMENT

### 3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

LOCATION PH  
BLDG. NO. 200

- a. Is System Supported from (check one):  
☐ Central Plant ☐ One System per Building  
☐ Several Small Systems per Building

b. Domestic Hot Water Temperatures provided: \_\_\_\_\_ °F \_\_\_\_\_ °F

c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

d. Is Piping System Insulated and Condition: \_\_\_\_\_

e. Is Hot Water Circulated? \_\_\_\_\_

- 1) Condition of circulator \_\_\_\_\_ 3) Is aquastat provided? \_\_\_\_\_  
 2) Circulator capacity \_\_\_\_\_ 4) Aquastat temperature setting \_\_\_\_\_

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- a. Location \_\_\_\_\_  
 b. Areas Served \_\_\_\_\_  
 c. Manufacturer and Model \_\_\_\_\_  
 d. Energy (Oil, Gas, Electric, Coal, Etc.) \_\_\_\_\_  
 e. Type Heaters & Quantities:  
   1) Storage \_\_\_\_\_  
   2) Instantaneous \_\_\_\_\_  
   3) Semi-Instantaneous \_\_\_\_\_  
 f. Heater Size and Storage Capacity \_\_\_\_\_  
 g. Heating Capacity \_\_\_\_\_  
 h. Type Controls (Air, Steam, Electric) \_\_\_\_\_  
 i. When Installed & Condition \_\_\_\_\_  
 j. Heater Temperature Setting \_\_\_\_\_  
 k. Average Water Maintained Temperature \_\_\_\_\_  
 l. Temperature Differential (j) - (k) \_\_\_\_\_  
 m. Is Hot Water Supply Adequate: \_\_\_\_\_  
 n. Insulation Thickness \_\_\_\_\_ Type \_\_\_\_\_  
 o. Insulation Material \_\_\_\_\_

DOMESTIC HOT WATER SYSTEM/EQUIPMENT

[illegible]

EL	NAME	TYPE	MODEL	HP	RPM	Elec	MEASURE
1	?	SMALL MUSHROOM					
2	GL PREPARE	CENT	10-2412	3	1725	230V/50Hz/30 400	9.2FLA/4.6
3		MED MUSHROOM		1/2	1725		
4		MED MUSHROOM		1/4	1725	115V	
5		SAME AS P2AW					MEASURED 1.8/1.8/1.4
6	(Aimed at 2)	UPDCAST (MUSHROOM)					
	GREENHOCK MOD. CUDIE 18-5 SERIAL 86008291						
7	GL PREPARE	CENT	10-2412	3	1725	230V/50Hz/30 400	9.2FLA/4.6 2.5/3/2
8	"	"	"	"	"	"	2.6/2.3/2
9	"	"	"	"	"	"	
10	SMALL MUSHROOM						
11		"					
12		"					
13		"					
14		MED MUSHROOM					

2043  
206

15 AUE AS 7

3.2/32/2

16 SURE CUT MATH ROOM

202

LOCATION F4H  
BLOG. NO. 206

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

CONTROL SYSTEM:

CONTROLLERS:

☐

ELECTRIC

☐

PNEUMATIC

☐

ELECTRONIC

OPERATION:

☐

MANUAL

☐

CONTINUOUS

☐

DEMAND

☒

TIME CLOCK

☐

EMCS

MFG \_\_\_\_\_ MODEL \_\_\_\_\_ LOCATION \_\_\_\_\_

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

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CONTROL/MISCELLANEOUS PROCESS/SKETCHES

4.2.1 Interior Lighting

LOCATION Fltr BLDG. 206

LIGHTING

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT <sup>2</sup> )	WATTS PER SQ. FT. (W/FT <sup>2</sup> )	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS C E I L L I N G	FINISH C E I L L I N G	WINDOW CODE F L O O R	REMARKS (LIGHTS/SWITCH)
DISH WASH	SMF	F34	2	5												
2	R	I	1/150	28												
3	R	F(n) 34	2/72	49							40-45				C	
LAND DOCK	R	MV 100	1	6												
8	S	F34	2/72	2												
8	S	F34	2/72	2												
8	S	F34	2/72	4												
8	S	F34	2/72	3												
ENTRY	R	MV 100	1	3												
8	S	F(n) 34	2/72	4												
EXT		EG	4	6												
TOTAL BUILDING LIGHTING ENERGY																

LIGHTING LEGEND:

Fixture Types:  
 Recessed = R  
 Suspended = S  
 Ventilated = V  
 Pole Mounted = PM  
 Other--Describe

Lamp Types:  
 Incandescent = I  
 Fluorescent = F  
 Sodium Vapor = SV  
 Mercury Vapor = MV  
 Metal Halide = MH  
 Other--Describe

Window Code:  
 If there are windows, indicate:  
 Curtains = C  
 Shades = S  
 No Shading = NS

Tasks Code:  
 1 = Corridors  
 2 = Kitchens  
 3 = Dining  
 4 = Offices-general  
 5 = Offices-bookkeeping (ledgers only)  
 6 = Offices-drafting  
 7 = Laundry  
 8 = Toilets  
 9 = Sleeping quarters  
 10 = Supply rooms  
 11 = Repair shops  
 12 = Storage room  
 13 = Retail store (PX, commissary)  
 Other (describe on audit form)  
 E = Exterior



LIGHTING

LOCATION

BLDG.

206

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/ DAY ON	DAYS/ YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT <sup>2</sup> )	WATTS PER SQ. FT.	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS	FINISH	WINDOW CODE	REMARKS (LIGHTS/SWITCH)
BLR Rm	Pendant	F34	2	5												
3	R	F(1) 34	2 72	49							40					
1	R	F(1) 34	2 72	10												
2	R	F34	4 144	8												
2	R	F(1) 34	2 72	29							50-60					
2	R	F34	4 144	8												
2	R	F(1) 34	40	32												
2	Snrf	F34	2 72	33												
12	Snrf	F34	2 72	9												
4	R	F34	4 144	2												
2	Snrf	F34	2 72	15												
TOTAL BUILDING LIGHTING ENERGY																

LIGHTING LEGEND:

Fixture Types:

Recessed = R  
Suspended = S  
Ventilated = V  
Pole Mounted = PM  
Other--Describe

Lamp Types:

Incandescent = I  
Fluorescent = F  
Sodium Vapor = SV  
Mercury Vapor = MV  
Metal Halide = MH  
Other--Describe

Window Code:

If there are windows, indicate:  
Curtains = C  
Shades = S  
No Shading = NS

Tasks Code:

1 = Corridors  
2 = Kitchens  
3 = Dining  
4 = Offices-general  
5 = Offices-bookkeeping (ledgers only)  
6 = Offices-drafting  
7 = Laundry  
8 = Toilets  
9 = Sleeping quarters  
10 = Supply rooms  
11 = Repair shops  
12 = Storage room  
13 = Retail store (PX, commissary)  
Other (describe on audit form)  
E = Exterior

7. LIABILITY

LOCATION

1

BLDG.

206

**Tasks Code:**

6 = Offices-drafting	12 = Storage room
7 = Laundry	13 = Retail store
8 = Toilets	(PX, commissary)
9 = Sleeping quarters	Other (describe on
10 = Supply rooms	audit form)
11 = Repair shops	E = Exterior

LIGHTING LEGEND:

**Lamp Types:**

Incandescent = I  
Fluorescent = F  
Sodium Vapor = SV  
Mercury Vapor = MV  
Metal Halide = MH  
Other--Describe

**Window Code:**

If there are windows, indicate:  
Curtains = C  
Shades = S  
No Shading = NS

**Tasks Code:**

6 = Offices-drafting  
7 = Laundry  
8 = Toilets  
9 = Sleeping quarters  
10 = Supply rooms  
11 = Repair shops  
12 = Storage room  
13 = Retail store  
Other (describe on audit form)  
E = Exterior

**Fixture Types:**

Recessed = R  
Suspended = S  
Ventilated = V  
Pole Mounted = PM  
Other--Describe

#### LIGHTING

##### 4.2.1

## 2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FAL SURVEYED BY RJB / BHT DATE 8 OCT 92

BUILDING NUMBER 207 & 207A FUNCTION/USE Barracks / OFFICES

INFORMATION SOURCE (DWG. NO./PERSON) \_\_\_\_\_

### GENERAL BUILDING DATA

BUILDING AGE: 15 YEARS (mid '70's CONSTR.)

DUPLICATE BUILDING NOS: 205/205A, 208/208A, 229/229A, 230/230A

TOTAL:

SIMILAR BUILDING NOS: \_\_\_\_\_

TOTAL:

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) ☒

NO. OF OCCUPANTS 80 (207)  
10- (207A)

Indicate (number and) duration of occupants each day

MISCELLANEOUS EQUIPMENT: 208 A: Shaver, drill press, Xerox, RFR  
16

ADDITIONAL COMMENTS, CRITICAL LOADS: A/C works well & always has

CRAWL SPACE: VENTILATED ☐ EXHAUSTED ☐

ATTIC:            VENTILATED ☐            EXHAUSTED ☐

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)

USED PLANS PROVIDED

SOUTH ELEVATION (Show floor to ceiling elevations)

USE PLANS PROVIDED

BUILDING FLOOR PLAN AND  
ELEVATION SKETCHES

## 2.3 ARCHITECTURAL WINDOWS & DOORS

LOCATION FHL  
BLDG. NO. 207/207A

[illegible]

U-VALUE	TOTAL AREA

LEGEND:

*GLAZING:	**FRAME:	***SHADING:	****VISIBILITY:	*****WINDOW TYPES:
1 - ORDINARY	W - WOOD	A - SOLAR FILM	E - AWNING	1 - DOUBLE HUNG
2 - 1" PLATE	M - METAL	B - VEN BLIND	F - SOLAR SCREEN	2 - SINGLE HUNG
3 - HEAT ABSORBING	T - METAL/THERMAL BREAK	C - STORM WINDOW	G - OVERHANG	3 - SLIDING
4 - TINTED		D - DRAPES	OTHER - SPECIFY	4 - CASEMENT
				5 - LOUVERED
				6 - FIXED GLASS

## ARCHITECTURAL WINDOWS & DOORS

## 2.4 BUILDING ENVELOPE

LOCATION FHL  
BLDG. NO. 207/207A

## CONSTRUCTION

WALL

ALLCOLOR: D ☐M ☐L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
STUCCO	$\frac{1}{2}$ "	
RIGID INSUL.	1"	
AIR SPACE	1"	
CMU	8"	
INSIDE FILM		
TOTAL		

U-FACTOR

AREA

FLOOR

SOG.

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR

AREA

BUILDING SKIRTING MATERIAL

ROOF (INCL. CLG.)

TYPE: F ☒P ☐COLOR: D ☐M ☐L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
SAFETY GLASS		
RIGID INSUL.	4"	
2" W/ CONCRETE/ METAL DECK	6"	
AIR SPACE		
SUSP. CEILING		
INSIDE FILM		
TOTAL		

U-FACTOR

AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR

AREA

BUILDING ENVELOPE

2.4

LOCATION Fth  
BLDG. NO. 201

3.1 HEATING EQUIPMENT

Heat Source:

☐ Furnace ☐ Steam Boiler ☒ Hot Water Boiler ☐ Heat Pump ☐ Supplied Steam or Hot Water (External Boiler Plant) ☐ Other \_\_\_\_\_

Capacity: 1,875 MBtu/Hr or \_\_\_\_\_ Boiler HP or \_\_\_\_\_ Lbs/Hr Steam or \_\_\_\_\_ GPM Hot Water

Manufacturer: HURST Model No.: FB225-30-0

Boiler/Furnace Control: ☐ Manual ☐ Time Clock ☒ Demand ☐ EMCS ☐ O<sub>2</sub> Trim

Operating Temperature: 190 °F Operating Pressure: 16 PSI

Fuel: ☐ Nat. Gas Only ☐ Nat. Gas/ \_\_\_\_\_ Draft: ☒ Forced ☐ Induced  
☒ Other (Specify) PEX

Burner: Mfg. GORDON PLATT Model No. B8.3-0-15 Metering Equipment: ☐ Yes ☐ No

Operating Schedule: Weekdays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_  
Weekdays & Holidays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_  
Operating Season: From \_\_\_\_\_ Mon/Day, to \_\_\_\_\_ Mon/Day

Flue Gas Temperature: \_\_\_\_\_ °F Receiver Tank Conditions: \_\_\_\_\_ PSIG \_\_\_\_\_ °F

If supplied Steam or Hot Water: Steam Pressure \_\_\_\_\_ PSI Hot Water Supply Temp. \_\_\_\_\_ °F Hot Water Return Temp. \_\_\_\_\_ °F

Insulation: (1) Boiler

(2) Other (Specify) PEX GOOD

Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup> Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>  
None ☐ Temp. \_\_\_\_\_ °F None ☐ Temp. \_\_\_\_\_ °F

Pump: No. of Pumps 2 V/PH/FLA \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Mfg. DAKO Model 10-10705-700061A01-1 HP 1 1/2 RPM 1725  
HW Pump Starter: ☐ HOA ☐ Reset P/B ☐ S/S Push Button Interlocked with Boiler? ☐ Yes ☐ No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. \_\_\_\_\_ Model \_\_\_\_\_

Condensate Pumps/Hot Water Pumps: Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_

Boiler/Furnace Condition: \_\_\_\_\_  
Describe \_\_\_\_\_

Occupant Discomfort (Evaluate): \_\_\_\_\_

HEATING EQUIPMENT

3.2 COOLING EQUIPMENT

COMPRESSOR(S)/CHILLER

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Size \_\_\_\_\_  
Refrigerant \_\_\_\_\_  
Motor HP (if available) \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

CONDENSER/CONDENSING UNIT

Water Cooled \_\_\_\_\_  
Air Cooled X  
Evaporative \_\_\_\_\_  
Manufacturer TRANE  
Model No. RA4-806-EA  
Size 80 TON  
Type of Fan COND.  
Fan Motor HP 7.5  
Fan Motor Voltage 200  
Fan Motor FLA 25.4  
Measured Amps 50 (RPM)

COOLING TOWER

Gravity \_\_\_\_\_  
Mech. Draft \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Type of Fan \_\_\_\_\_  
Fan RPM \_\_\_\_\_  
Fan Motor HP \_\_\_\_\_  
Fan Motor Voltage \_\_\_\_\_  
Fan Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

CHILLED WATER PUMPS (If more than one, how many operative during normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity, Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

REMARKS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



### 3.3 AIR HANDLING EQUIPMENT

LOCATION PH  
BLDG. NO. 207

#### FANS

	<u>207</u>	<u>207A</u>		
Type	<u>CEAT</u>	<u>PERMANENT</u>		
Unit/Zone	# <u>BLDG</u>	# <u>MDNW</u>	#	#
Manufacturer	<u>TRANE</u>	<u>TRANE</u>		
Model No.	<u>CLCH</u>	<u>LPSI 8 P</u>		
Type	<u>#50</u>	<u>SN 0925</u>		
RPM of Fan	<u>RETURN - 10 HP</u>			
Motor HP	<u>SUPPLY - 25 HP</u>	<u>1.5</u>		
Motor Volts	<u>200</u>	<u>208</u>		
Motor FLA	<u>50 Amps</u>	<u>6</u>		
Measured Amps				
CFM (from Plans)				
Notes				

#### COILS

Indicate capacities where found:

COOLING	HUMIDIFICATION
DX <u>X</u>	ELEC _____
H <sub>2</sub> O _____	STEAM _____
OTHER _____	H <sub>2</sub> O _____
	OTHER _____
HEATING	AUX/MISC OTHER _____
GAS _____	
H <sub>2</sub> O <u>X</u>	
ELEC _____	
OTHER _____	

#### FILTERS

Type			
Condition	<u>.55" H<sub>2</sub>O</u>		
Manometer Reading 1/			

1/ Record only if manometer is installed on the unit.

AIR HANDLING EQUIPMENT

### 3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

LOCATION FHL  
BLDG. NO. 207/207A

- a. Is System Supported from (check one):  
☐ Central Plant  
☒ One System per Building  
☐ Several Small Systems per Building

b. Domestic Hot Water Temperatures provided: \_\_\_\_\_ °F \_\_\_\_\_ °F

c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

d. Is Piping System Insulated and Condition: \_\_\_\_\_

e. Is Hot Water Circulated? YEC - Bldg 207

- 1) Condition of circulator \_\_\_\_\_ 3) Is aquastat provided? \_\_\_\_\_  
 2) Circulator capacity \_\_\_\_\_ 4) Aquastat temperature setting \_\_\_\_\_

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

a. Location	<u>207 MECH EQUIP RM</u>	<u>207A</u>
b. Areas Served	<u>207</u>	<u>207A</u>
c. Manufacturer and Model		
d. Energy (Oil, Gas, Electric, Coal, Etc.)	<u>F.O.</u>	<u>ELECTRIC</u>
e. Type Heaters & Quantities:	<u>HEAT. EXCHANGER</u>	
1) Storage	<u>1,075 GAL.</u>	<u>15 GAL.</u>
2) Instantaneous		
3) Semi-Instantaneous		
f. Heater Size and Storage Capacity		<u>3 kW</u>
g. Heating Capacity		
h. Type Controls (Air, Steam, Electric)		
i. When Installed & Condition		
j. Heater Temperature Setting	<u>145°F</u>	<u>180°F</u>
k. Average Water Maintained Temperature		
l. Temperature Differential (j) - (k)		
m. Is Hot Water Supply Adequate:		
n. Insulation Thickness		
o. Insulation Material		

DOMESTIC HOT WATER SYSTEM/EQUIPMENT

LOCATION FHA  
BLDG. NO. 209

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

CONTROL SYSTEM:

CONTROLLERS:

☐

ELECTRIC

☐

PNEUMATIC

☐

ELECTRONIC

OPERATION:

☐

MANUAL

☐

TIME CLOCK

☐

CONTINUOUS

☐

EMCS

☐

DEMAND

MFG \_\_\_\_\_

MODEL \_\_\_\_\_

LOCATION \_\_\_\_\_

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

208A: Had & cool T stats  
HOA & dial to

Back room of 208A has  
14 PC's , TV , 20 PW & overboats for some reason.

## LIGHTING

LOCATION

FILE

BLDG.

207

[illegible]

### LIGHTING LEGEND:

**Lamp Types:**

Incandescent = I  
Fluorescent = F  
Sodium Vapor = SV  
Mercury Vapor = MV  
Metal Halide = MH  
Other--Describe

**Window Code:**

If there are windows, indicate:

Curtains = C  
Shades = S  
No Shading = NS

**Tasks Code:**

1 = Corridors  
2 = Kitchens  
3 = Dining  
4 = Offices-general  
5 = Offices-bookkeeping (ledgers only)  
6 = Offices-drafting  
7 = Laundry  
8 = Toilets  
9 = Sleeping quarters  
10 = Supply rooms  
11 = Repair shops  
12 = Storage room  
13 = Retail store (PX, commissary)  
Other (describe on audit form)  
E = Exterior

**Fixture Types:**

Recessed = R  
Suspended = S  
Ventilated = V  
Pole Mounted = PM  
Other--Describe

## LIGHTING

### 4.2.1

4.2.1 Interior Lighting

LOCATION FAL BLDG. 207A

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT <sup>2</sup> )	WATTS PER SQ. FT. (W/FT <sup>2</sup> )	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS	FINISH	WINDOW CODE	REMARKS (LIGHTS/SWITCH)
4.2.1	S	F 40	2	8								9'0"	C E I N G	C E I N G		
4.2.2	S	F 40	2	10												
4.2.3	S	F 40	2	2												
4.2.4	S	F 40	2	5												
4.2.5	S	F 40	2	2												
4.2.6	S	F 40	2	6												
4.2.7	R	F 40	2	6							60	9'0"				
4.2.8	R	F 40	2	5												
4.2.9	S	F 40	2	2												
4.2.10	S	F 40	2	2												
4.2.11				12												
TOTAL BUILDING LIGHTING ENERGY																

LIGHTING LEGEND:

- Fixture Types:**  
 Recessed = R  
 Suspended = S  
 Ventilated = V  
 Pole Mounted = PM  
 Other--Describe
- Lamp Types:**  
 Incandescent = I  
 Fluorescent = F  
 Sodium Vapor = SV  
 Mercury Vapor = MV  
 Metal Halide = MH  
 Other--Describe
- Window Code:**  
 If there are windows, indicate:  
 Curtains = C  
 Shades = S  
 No Shading = NS
- Tasks Code:**  
 1 = Corridors  
 2 = Kitchens  
 3 = Dining  
 4 = Offices-general  
 5 = Offices-bookkeeping (ledgers only)  
 6 = Offices-drafting  
 7 = Laundry  
 8 = Toilets  
 9 = Sleeping quarters  
 10 = Supply rooms  
 11 = Repair shops  
 12 = Storage room  
 13 = Retail store (PX, commissary)  
 Other (describe on audit form)  
 E = Exterior

## 2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FH SURVEYED BY RIB/RT DATE 10/15  
BUILDING NUMBER 2084208A FUNCTION/USE BARBERS / OFFICES  
INFORMATION SOURCE (DWG. NO./PERSON) Visum

### GENERAL BUILDING DATA

BUILDING AGE: 15 YEARS

DUPLICATE BUILDING NOS: \_\_\_\_\_

TOTAL: \_\_\_\_\_

SIMILAR BUILDING NOS: \_\_\_\_\_

TOTAL: \_\_\_\_\_

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) ☒ NO. OF OCCUPANTS 90-208  
Indicate (number and) duration of occupants each day 10-208A

MISCELLANEOUS EQUIPMENT: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

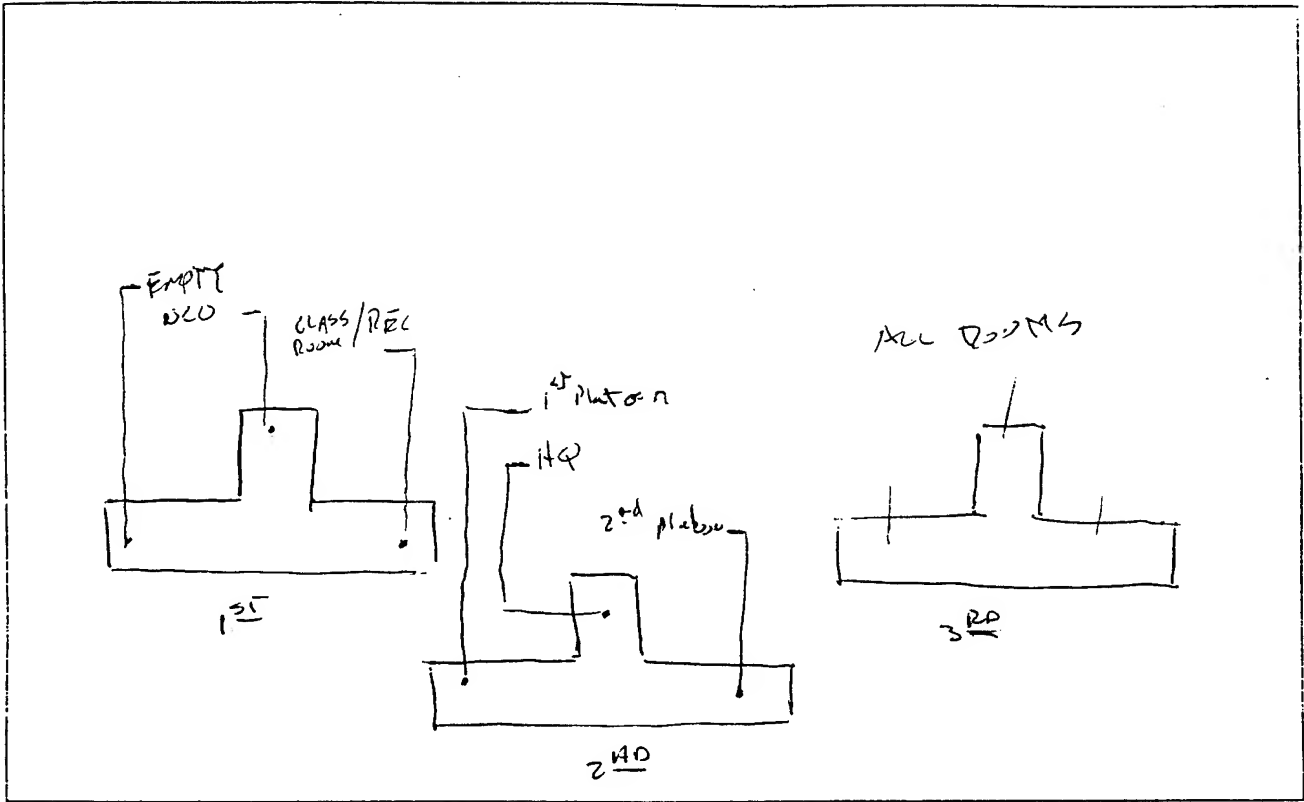
ADDITIONAL COMMENTS, CRITICAL LOADS:

CRAWL SPACE: VENTILATED ☐ EXHAUSTED ☐

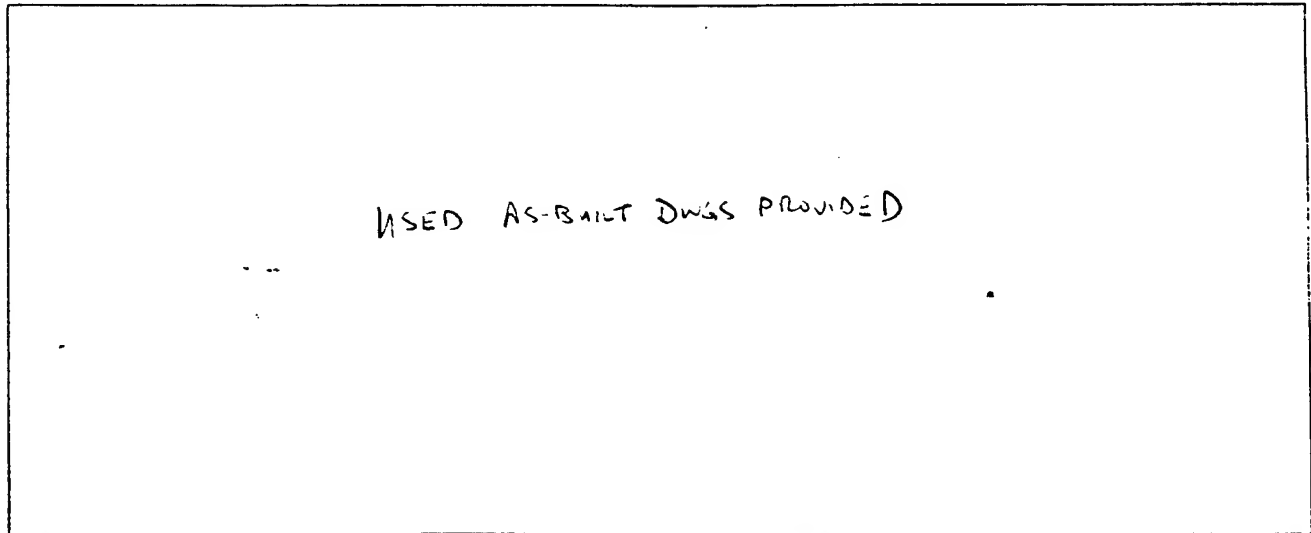
ATTIC: VENTILATED ☐ EXHAUSTED ☐

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



[illegible]

	TOTAL AREA	U-VALUE
1		
2		
3		
4		
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9		
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98		
99		
100		

**LEGEND:**

*GLAZING:	**FRAME:	***SHADING:	***VISIBILITY:	WINDOW TYPES:
1 - ORDINARY	W - WOOD	A - SOLAR FILM	F - AWNING	1 - DOUBLE HUNG
2 - 1/4" PLATE	M - METAL	B - VEN BLIND	F - SOLAR SCREEN	4 - CASEMENT
3 - HEAT ABSORBING	T - METAL/THERMAL BREAK	C - STORM WINDOW	G - OVERHANG	5 - LOUVERED
4 - TINTED		D - DRAPES	OTHER - SPECIFY	6 - FIXED GLASS



2.4 BUILDING ENVELOPE

LOCATION FHL  
BLDG. NO. 208/208A

CONSTRUCTION

WALL ALL COLOR: D ☐ M ☐ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
Stucco	1/2"	
RIGID INSULATION	1"	
AIR SPACE	1"	
CMU	8"	
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

FLOOR SOG

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

BUILDING SKIRTING MATERIAL

ROOF (INCL. CLG.)

TYPE: F ☒ P ☐  
COLOR: D ☐ M ☐ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
BUILT-UP ROOF		
RIGID INSUL.	4"	
LT WEIGHT CONCRETE/METAL DECK	6"	
AIR SPACE		
SUSP. CEILING		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

3.1 HEATING EQUIPMENT

LOCATION FHL  
BLDG. NO. 208/208A

Heat Source:

☐ Furnace ☐ Steam Boiler ☒ Hot Water Boiler ☐ Heat Pump ☐ Supplied Steam or Hot Water (External Boiler Plant) ☐ Other \_\_\_\_\_

Capacity: 1875 MBH or \_\_\_\_\_ Boiler HP or \_\_\_\_\_ Lbs/Hr Steam or \_\_\_\_\_ GPM Hot Water

Manufacturer: HURST Model No.: FB225-30-0

Boiler/Furnace Control: ☐ Manual ☐ Time Clock ☒ Demand ☐ EMCS ☐ O<sub>2</sub> Trim

Operating Temperature: 190 °F Operating Pressure: 16 PSI

Fuel: ☐ Nat. Gas Only ☐ Nat. Gas/ \_\_\_\_\_ Draft: ☒ Forced AS  
☒ Other (Specify) PETROL ☐ Induced DAMPER

Burner: Mfg. Gordon Model No. R8.3-0-15 Metering Equipment: ☐ Yes ☐ No

Operating Schedule: Weekdays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

Weekdays & Holidays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

Operating Season: From \_\_\_\_\_ Mon/Day, to \_\_\_\_\_ Mon/Day

Flue Gas Temperature: \_\_\_\_\_ °F Receiver Tank Conditions: \_\_\_\_\_ PSIG \_\_\_\_\_ °F

If supplied Steam or Hot Water: Steam Pressure \_\_\_\_\_ PSI Hot Water Supply Temp. \_\_\_\_\_ °F Hot Water Return Temp. \_\_\_\_\_ °F

Insulation: (1) Boiler (2) Other (Specify) pipes and  
Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup> Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>  
None ☒ Temp. \_\_\_\_\_ °F None ☐ Temp. \_\_\_\_\_ °F

Pump: No. of Pumps 2 V/PH/FLA \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Mfg. PACO Model 10-10705-700061A01-1 HP 1 1/2 RPM 1725

HW Pump Starter: ☐ HOA ☐ Reset P/B ☐ S/S Push Button Interlocked with Boiler? ☐ Yes ☐ No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. \_\_\_\_\_ Model \_\_\_\_\_

Condensate Pumps/Hot Water Pumps: Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_

Boiler/Furnace Condition: \_\_\_\_\_

Describe \_\_\_\_\_

Occupant Discomfort (Evaluate): \_\_\_\_\_

HEATING EQUIPMENT

3.2 COOLING EQUIPMENTLOCATION FHL  
BLDG. NO. 208/208ACOMPRESSOR(S)/CHILLERSPLIT SYSTEM DX

Manufacturer TRANE  
Model No. RAAA-8006-EA  
Size \_\_\_\_\_  
Refrigerant \_\_\_\_\_  
Motor HP (if available) 80 HP  
Motor Voltage 208V/3φ  
Motor FLA 264  
Measured Amps \_\_\_\_\_

CONDENSER/CONDENSING UNIT

Water Cooled \_\_\_\_\_  
Air Cooled X  
Evaporative \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Size \_\_\_\_\_  
Type of Fan 2 EA COND.  
Fan Motor HP 7.5 HP  
Fan Motor Voltage 208V/3φ  
Fan Motor FLA 25.4  
Measured Amps \_\_\_\_\_

COOLING TOWER

Gravity \_\_\_\_\_  
Mech. Draft \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Type of Fan \_\_\_\_\_  
Fan RPM \_\_\_\_\_  
Fan Motor HP \_\_\_\_\_  
Fan Motor Voltage \_\_\_\_\_  
Fan Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

CHILLED WATER PUMPS (If more than one, how many  
operative during normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity, Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

REMARKS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_COOLING EQUIPMENT

### 3.3 AIR HANDLING EQUIPMENT

LOCATION FHL  
BLDG. NO. 208/208A

#### FANS

	<u>208</u>	<u>208A</u>		
Type	<u>Climate CHANGER</u>	<u>ROOFTOP PKG UNIT</u>		
Unit/Zone	<u># AC-208</u>	<u># 208A</u>	<u>#</u>	<u>#</u>
Manufacturer	<u>TRANE</u>	<u>AIR FAN</u>		
Model No.	<u>50</u>	<u>LPS18D</u>		
Type				
RPM of Fan				
Motor HP				
Motor Volts				
Motor FLA				
Measured Amps				
CFM (from Plans)				
Notes				

#### COILS

Indicate capacities where found:

##### COOLING

DX ☒ \_\_\_\_\_  
H<sub>2</sub>O \_\_\_\_\_  
OTHER \_\_\_\_\_

##### HUMIDIFICATION

ELEC \_\_\_\_\_  
STEAM \_\_\_\_\_  
H<sub>2</sub>O \_\_\_\_\_  
OTHER \_\_\_\_\_

##### HEATING

GAS \_\_\_\_\_  
H<sub>2</sub>O ☒ \_\_\_\_\_  
ELEC \_\_\_\_\_  
OTHER \_\_\_\_\_

##### AUX/MISC OTHER

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

#### FILTERS

Type	_____	_____	_____
Condition	_____	_____	_____
Manometer Reading 1/	_____	_____	_____

1/ Record only if manometer is installed on the unit.

3.4

DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENTLOCATION FAL  
BLDG. NO. 208/208A

- a. Is System Supported from (check one): ☐ Central Plant ☒ One System per Building  
☐ Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: \_\_\_\_\_ °F \_\_\_\_\_ °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
- d. Is Piping System Insulated and Condition: \_\_\_\_\_
- e. Is Hot Water Circulated? ☒  
 1) Condition of circulator GOOD 3) Is aquastat provided? \_\_\_\_\_  
 2) Circulator capacity \_\_\_\_\_ 4) Aquastat temperature setting \_\_\_\_\_

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- |  |                            |                 |  |
|--|----------------------------|-----------------|--|
| a. Location                                | <u>208 Mech Equip Room</u> | <u>208A</u>     |  |
| b. Areas Served                            | <u>208</u>                 | <u>208A</u>     |  |
| c. Manufacturer and Model                  |                            |                 |  |
| d. Energy (Oil, Gas, Electric, Coal, Etc.) | <u>F.O.</u>                | <u>ELECTRIC</u> |  |
| e. Type Heaters & Quantities:              |                            |                 |  |
| 1) Storage                                 | <u>HEAT EXCHANGER</u>      |                 |  |
| 2) Instantaneous                           |                            |                 |  |
| 3) Semi-Instantaneous                      |                            |                 |  |
| f. Heater Size and Storage Capacity        | <u>1,075 GALS</u>          | <u>15 GALS</u>  |  |
| g. Heating Capacity                        |                            | <u>3 kW</u>     |  |
| h. Type Controls (Air, Steam, Electric)    |                            |                 |  |
| i. When Installed & Condition              |                            |                 |  |
| j. Heater Temperature Setting              | <u>140°F</u>               | <u>140°F</u>    |  |
| k. Average Water Maintained Temperature    |                            |                 |  |
| l. Temperature Differential (j) - (k)      |                            |                 |  |
| m. Is Hot Water Supply Adequate:           |                            |                 |  |
| n. Insulation Thickness                    |                            | Type            |  |
| o. Insulation Material                     |                            |                 |  |

DOMESTIC HOT WATER SYSTEM/EQUIPMENT

3.4

#### 4.2.1 Interior Lighting

## LIGHTING

**LOCATION**

士

**BLDG.**

208/208A

[illegible]

### LIGHTING LEGEND:

**Fixture Types:**

Recessed = R  
Suspended = S  
Ventilated = V  
Pole Mounted = PM  
Other--Describe

**Lamp Types:**

Incandescent = I  
Fluorescent = F  
Sodium Vapor = SV  
Mercury Vapor = MV  
Metal Halide = MH  
Other--Describe

**Window Code:**

**If there are windows, indicate:**

Curtains = C  
Shades = S  
No Shading = NS

**Tasks Code:**

1 = Corridors  
2 = Kitchens  
3 = Dining  
4 = Offices-general  
5 = Offices-bookkeeping (ledgers only)  
6 = Offices-drafting  
7 = Laundry  
8 = Toilets  
9 = Sleeping quarters  
10 = Supply rooms  
11 = Repair shops  
12 = Storage room  
13 = Retail store (PX, commissary)  
Other (describe on audit form)  
E = Exterior

# 2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FAL SURVEYED BY RJB/BIH DATE 7 OCT 92

BUILDING NUMBER 209 FUNCTION/USE SNACK BAR

INFORMATION SOURCE (DWG. NO./PERSON) SURVEY / AS BUILT DWGS

## GENERAL BUILDING DATA

BUILDING AGE: NEW YEARS

DUPLICATE BUILDING NOS: \_\_\_\_\_

TOTAL: \_\_\_\_\_

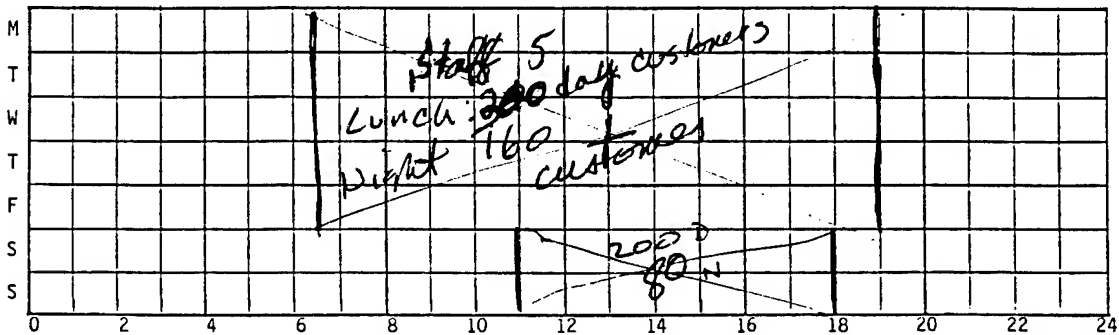
SIMILAR BUILDING NOS: \_\_\_\_\_

TOTAL: \_\_\_\_\_

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) ☐

NO. OF OCCUPANTS 5

Indicate (number and) duration of occupants each day



MISCELLANEOUS EQUIPMENT: \_\_\_\_\_

ADDITIONAL COMMENTS, CRITICAL LOADS: \_\_\_\_\_

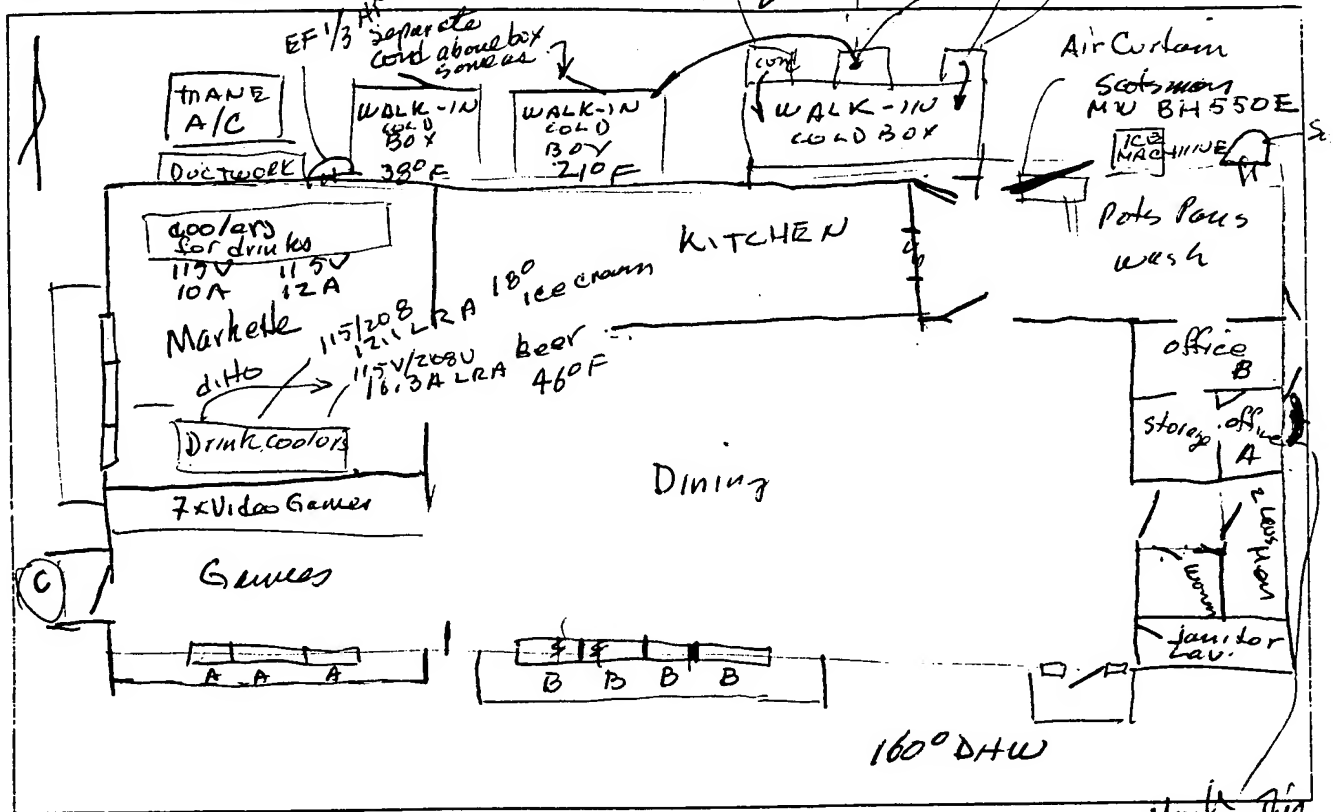
adequate. - mini meet and video game room  
no a/c (unit is broken) has been  
up for years.

CRAWL SPACE: VENTILATED ☐ EXHAUSTED ☐ - DOG / Lino

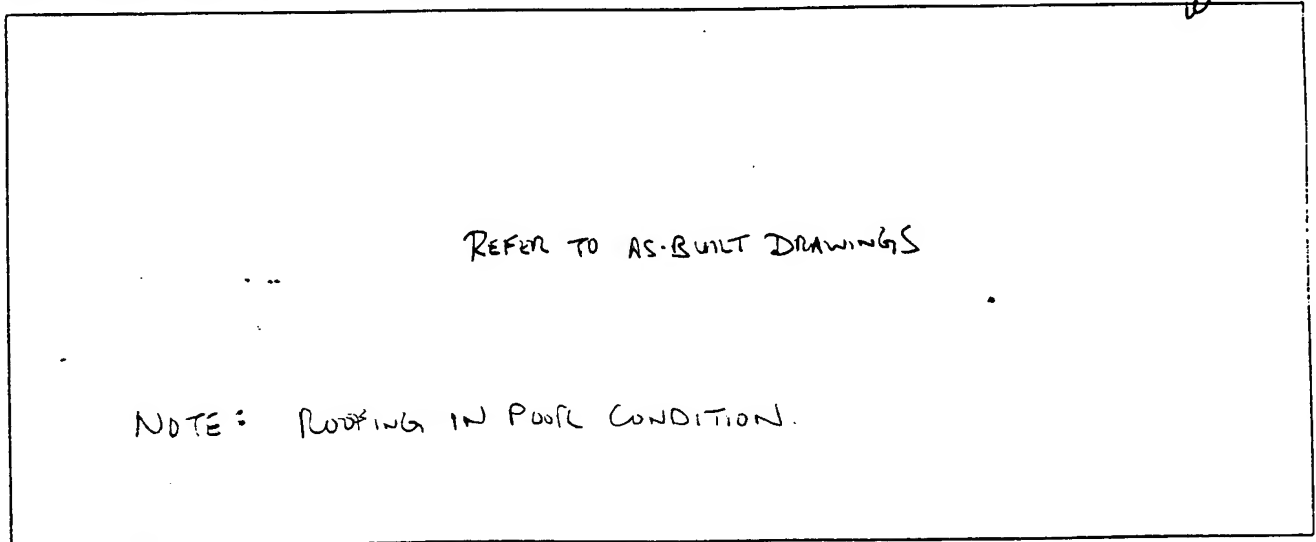
ATTIC: VENTILATED ☐ EXHAUSTED ☐

## 2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



BUILDING FLOOR PLAN AND  
ELEVATION SKETCHES



LEGEND:			
*GLAZING:	**FRAME:	**SHADING:	***VISIBILITY:
1 - ORDINARY	W - WOOD	A - SOLAR FILM	E - ANNING
2 - 1/4" PLATE	M - METAL	B - VEN BLIND	F - SOLAR SCREEN
3 - HEAT ABSORBING	T - METAL/THERMAL BREAK	C - STORM WINDOW	G - OVERHANG
4 - TINTED		D - DRAPES	OTHER - SPECIFY
			WINDOW TYPES:
			1 - DOUBLE HUNG
			2 - SINGLE HUNG
			3 - SLIDING
			4 - CASEMENT
			5 - LOUVERED
			6 - FIXED GLASS

2.4 BUILDING ENVELOPE

*Refer to bldg plans*

LOCATION Fitl  
BLDG. NO. 209

CONSTRUCTION

WALL

COLOR: D

☐

M

☐

L

☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR

AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR

AREA

BUILDING SKIRTING MATERIAL

ROOF (INCL. CLG.)

TYPE: F

☐

P

☐

COLOR: D

☐

M

☐

L

☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR

AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR

AREA

# 3.1 HEATING EQUIPMENT

LOCATION Fitz  
BLDG. NO. 209

Heat Source:

☐ Furnace ☐ Steam Boiler ☒ Hot Water Boiler ☐ Heat Pump ☐ Supplied Steam or Hot Water (External Boiler Plant) ☐ Other \_\_\_\_\_

Capacity: 28000 Btu/Hr or \_\_\_\_\_ Boiler HP or \_\_\_\_\_ Lbs/Hr Steam or \_\_\_\_\_ GPM Hot Water

Manufacturer: Bryon Model No.: D-350W-W S/N 46262

Boiler/Furnace Control: ☐ Manual ☒ Time Clock ☒ Demand ☐ EMCS ☐ O<sub>2</sub> Trim

Operating Temperature: not energized 175/215°F on stats 75°F HW Reset Control °F Operating Pressure: \_\_\_\_\_ PSI

Fuel: ☐ Nat. Gas Only ☐ Nat. Gas/ \_\_\_\_\_ Draft: ☐ Forced ☒ Induced  
☒ Other (Specify) Propane

Burner: Mfg. Economite Model No. RE 32P Metering Equipment: ☐ Yes ☒ No

Operating Schedule: Weekdays: Blr/Ac Time Clock 24hr, not 7-day on 0500 off 1530 From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day

Weekdays & Holidays: From 7 days/week Hr/Day

Operating Season: From \_\_\_\_\_ Mon/Day, to \_\_\_\_\_ Mon/Day

Flue Gas Temperature: \_\_\_\_\_ °F Receiver Tank Conditions: \_\_\_\_\_ PSIG \_\_\_\_\_ °F

If supplied Steam or Hot Water: Steam Pressure \_\_\_\_\_ PSI Hot Water Supply Temp. \_\_\_\_\_ °F Hot Water Return Temp. \_\_\_\_\_ °F

Insulation: (1) Boiler (2) Other (Specify) \_\_\_\_\_  
Poor ☒ Area 8' x 3 1/2' FT<sup>2</sup> Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>  
None ☐ Temp. \_\_\_\_\_ °F None ☐ Temp. \_\_\_\_\_ °F

Pump: No. of Pumps 1 In-Line Circulator V/PH/FLA \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP 1/3 RPM  
HW Pump Starter: ☐ HOA ☐ Reset P/B ☐ S/S Push Button Interlocked with Boiler? ☐ Yes ☐ No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. \_\_\_\_\_ Model \_\_\_\_\_

Condensate Pumps/Hot Water Pumps: Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_

Boiler/Furnace Condition: \_\_\_\_\_

Describe \_\_\_\_\_

Occupant Discomfort (Evaluate): \_\_\_\_\_

HEATING EQUIPMENT

LOCATION Fitz  
BLDG. NO. 229

3.2 COOLING EQUIPMENT

COMPRESSOR(S)/CHILLER

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Size \_\_\_\_\_  
Refrigerant UA \_\_\_\_\_  
Motor HP (if available) \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

CONDENSER/CONDENSING UNIT

Water Cooled \_\_\_\_\_  
Air Cooled \_\_\_\_\_  
Evaporative \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Size UA \_\_\_\_\_  
Type of Fan \_\_\_\_\_  
Fan Motor HP \_\_\_\_\_  
Fan Motor Voltage \_\_\_\_\_  
Fan Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity, Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP UA \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

COOLING TOWER

Gravity \_\_\_\_\_  
Mech. Draft \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. UA \_\_\_\_\_  
Type of Fan \_\_\_\_\_  
Fan RPM \_\_\_\_\_  
Fan Motor HP \_\_\_\_\_  
Fan Motor Voltage \_\_\_\_\_  
Fan Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

CHILLED WATER PUMPS (If more than one, how many operative during normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity Gals. UA \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

REMARKS PACKAGE TRANS UNIT: SACA 753-C

1 comp. 3d 60Hz 30.3 - 20.8 FLA 208/240 LRA 163.0

2 cond fans 1d 60Hz 2.7 FLA @ 208 2.7 FLA @ 240V

1 Evap Fan 3d 60Hz 7.5 - 208 6.8 - 240

P-22

unit is turned off at disconnect sw. COOLING EQUIPMENT  
HW Htg coil also. Economizer dampers disconnected

### 3.3 AIR HANDLING EQUIPMENT

LOCATION FR  
BLDG. NO. 209

#### FANS

Type	<u>Air Curtain on North <del>to</del> Hot</u>		<u>(</u>	<u>PKD. Rooftop Air</u>
Unit/Zone	<u># Door</u>	<u>= Mech Run Exh</u>	<u>#</u>	<u>#</u>
Manufacturer	<u>Universal Jet</u>	<u>?</u>	<u>1</u>	<u>MAMMOTH M/N.</u>
Model No.				<u>LEHB-181W258</u>
Type	<u>Centr.</u>	<u>~ 1/3 HP</u>	<u>1</u>	<u>Compressor &amp; Cond.</u>
RPM of Fan		<u>on T stat set</u>		<u>208V/3P/88 FLA</u>
Motor HP		<u>80°F</u>		<u>AHU WAO meas:</u>
Motor Volts		<u>also on A/C</u>		<u>62AR 208V/3P</u>
Motor FLA		<u>14R door</u>		
Measured Amps				
CFM (from Plans)				
Notes				

#### COILS

Indicate capacities where found:

##### COOLING

DX \_\_\_\_\_  
H<sub>2</sub>O \_\_\_\_\_  
OTHER \_\_\_\_\_

##### HEATING

GAS \_\_\_\_\_  
H<sub>2</sub>O \_\_\_\_\_  
ELEC \_\_\_\_\_  
OTHER \_\_\_\_\_

##### HUMIDIFICATION

ELEC \_\_\_\_\_  
STEAM \_\_\_\_\_  
H<sub>2</sub>O \_\_\_\_\_  
OTHER \_\_\_\_\_

##### AUX/MISC OTHER

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

#### FILTERS

Type	_____	_____	_____
Condition	_____	_____	_____
Manometer Reading 1/	_____	_____	_____

1/ Record only if manometer is installed on the unit.

AIR HANDLING EQUIPMENT

3.4

DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENTLOCATION Ftr  
Bldg. No. 201

- a. Is System Supported from (check one): ☐ Central Plant ☒ One System per Building  
☐ Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: 110 °F \_\_\_\_\_ °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:  
1" 22 Ft  
 \_\_\_\_\_  
 \_\_\_\_\_
- d. Is Piping System Insulated and Condition: OK
- e. Is Hot Water Circulated? NO
- 1) Condition of circulator OK 3) Is aquastat provided? NA  
 2) Circulator capacity NA 4) Aquastat temperature setting NA

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- a. Location \_\_\_\_\_
- b. Areas Served \_\_\_\_\_
- c. Manufacturer and Model American EFR 42D-1L
- d. Energy (Oil, Gas, Electric, Coal, Etc.) \_\_\_\_\_
- e. Type Heaters & Quantities:
- 1) Storage 42 gal
- 2) Instantaneous \_\_\_\_\_
- 3) Semi-Instantaneous \_\_\_\_\_
- f. Heater Size and Storage Capacity \_\_\_\_\_
- g. Heating Capacity 208V 1φ 240V 1φ
- h. Type Controls (Air, Steam, Electric) 3375 4500 W upper  
Lower
- i. When Installed & Condition \_\_\_\_\_
- j. Heater Temperature Setting Disconnected W = 3375/4500
- k. Average Water Maintained Temperature \_\_\_\_\_
- l. Temperature Differential (j) - (k) \_\_\_\_\_
- m. Is Hot Water Supply Adequate: \_\_\_\_\_
- n. Insulation Thickness \_\_\_\_\_ Type \_\_\_\_\_
- o. Insulation Material \_\_\_\_\_

DOMESTIC HOT WATER SYSTEM/EQUIPMENT

3.4

LOCATION FTH  
BLDG. NO. 209

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

CONTROL SYSTEM:

CONTROLLERS:

☐

ELECTRIC

☐

PNEUMATIC

☐

ELECTRONIC

OPERATION:

☐

MANUAL

☐

CONTINUOUS

☐

DEMAND

☒

TIME CLOCK

☐

EMCS

MFG \_\_\_\_\_ MODEL \_\_\_\_\_ LOCATION \_\_\_\_\_

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

Honeywell thermostats H&C H=55°F  
C=68°F

inside temp 68°F

all

CONTROL/MISCELLANEOUS PROCESS/SKETCHES

Fit  
207

#### 4.1 - MAIN SERVICE

4.1.1 TRANSFORMER: Size 150 kVA

Connection 7

☐ Dry Type

☒ Oil Filled

Location Site outside mech room

12470 GRDY / 7200 - 208Y / 120

4.1.2 MAIN SWITCHBOARD: *211 to 214*

Bldg is Metered - see meter reading notes.

MANUFACTURER \_\_\_\_\_ (BRKR) (FUSE) ✓

BUS RATING \_\_\_\_\_ AMPS \_\_\_\_\_ VOLTS \_\_\_\_\_ PHASE \_\_\_\_\_ WIRE \_\_\_\_\_ NEUTRAL \_\_\_\_\_

MAIN (BKR)(FUSE)(MLO) RATING \_\_\_\_\_ AMPS

SOURCE \_\_\_\_\_ VOLTS: \_\_\_\_\_ AN \_\_\_\_\_ BN \_\_\_\_\_ CH \_\_\_\_\_

**CIRCUIT INFORMATION:**

[illegible]

## ELECTRICAL MAIN SERVICE



208

LOCATION Fix BLDG.

LIGHTING S F 40 2/100 5

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/ DAY ON	DAYS/ YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT <sup>2</sup> )	WATTS PER SQ. FT. (W/FT <sup>2</sup> )	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS C E I L L O R	FINISH C E I L L O R	WINDOW CODE	REMARKS (LIGHTS/SWITCH)
8 Men	R	F 34	2/100	1							30	8'				
1-8	S	F 34	4/200	1							50	8'				
8 women	R	I 60	1/60	1								9'6"				
Janitor	S	F 34	1/4	1												
3	R	I 60	1/60	15												
Serving	R	I 60	1/60	4												
	R	I 40	1/40	4												
Market	R	I 60	1/60	9												
Garden	R	I 60	1/60	6												
Kitchen	S	F 34	2/2	7												
Storage/office	S	F 34	1/1	8												
TOTAL BUILDING LIGHTING ENERGY																

LIGHTING LEGEND:

- Window Code:  
If there are windows, indicate:  
Curtains = C  
Shades = S  
No Shading = NS
- Lamp Types:  
Incandescent = I  
Fluorescent = F  
Sodium Vapor = SV  
Mercury Vapor = MV  
Metal Halide = MH  
Other--Describe
- Tasks Code:  
1 = Corridors  
2 = Kitchens  
3 = Dining  
4 = Offices-general  
5 = Offices-bookkeeping (ledgers only)  
6 = Offices-drafting  
7 = Laundry  
8 = Toilets  
9 = Sleeping quarters  
10 = Supply rooms  
11 = Repair shops  
12 = Storage room  
13 = Retail store (PX, commissary)  
Other (describe on audit form)  
E = Exterior

LOCATION Fit  
 BLDG. NO. 209

4.2 LIGHTING (continued)

4.2.2 Exterior Lighting

ACTUAL NO. OF FIXTURES	TYPE OF FIXTURE	NO. OF FIXTURES IN USE	WATTS/ FIXTURE	TOTAL WATTS	CONTROL TYPE*	REMARKS
North 2	PAR 150	2				
2	Recessed 60W I	2				
East 1	LPS 250	1				

\* M = Manual T = Timer P = Photocell Enter schedule under Remarks.

CALCULATIONS

WATTS OF INTERIOR LIGHTING

Actual at time of survey NA

Total installed \_\_\_\_\_

WATTS OF EXTERIOR LIGHTING

Actual on at time of survey \_\_\_\_\_

Total installed \_\_\_\_\_

LIGHTING-EXTERIOR

2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION Ft SURVEYED BY PJ3/BIH DATE Oct 92  
 BUILDING NUMBER 210 FUNCTION/USE HEALTH/DENTAL CLINIC  
 INFORMATION SOURCE (DWG. NO./PERSON) SURVEY/AS BUILT DWGS

GENERAL BUILDING DATA

BUILDING AGE: NEW YEARS

DUPLICATE BUILDING NOS: \_\_\_\_\_ TOTAL: \_\_\_\_\_

SIMILAR BUILDING NOS: \_\_\_\_\_ TOTAL: \_\_\_\_\_

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) ☒ NO. OF OCCUPANTS 10

Indicate (number and) duration of occupants each day

M																								
T																								
W																								
T																								
F																								
S																								
S																								
	0	2	4	6	8	10	12	14	16	18	20	22	24											

MISCELLANEOUS EQUIPMENT: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

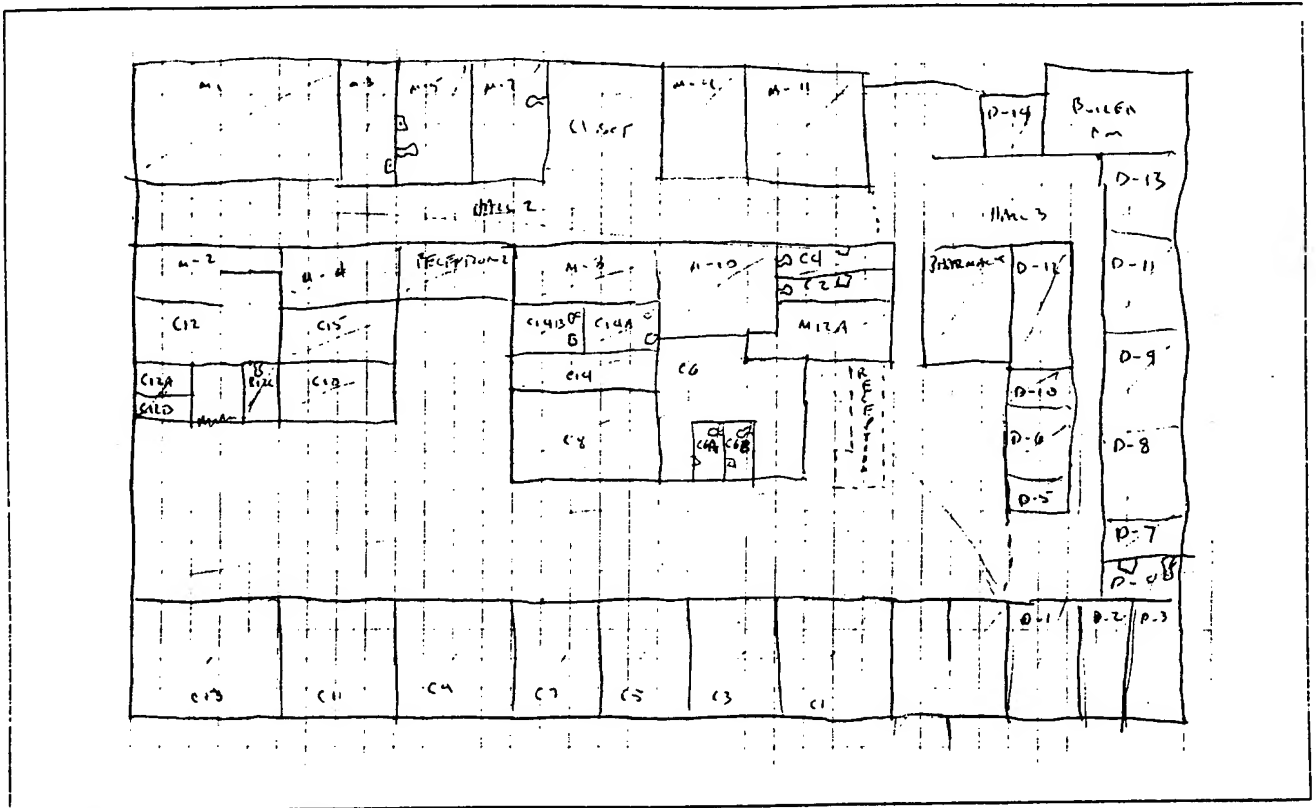
ADDITIONAL COMMENTS, CRITICAL LOADS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

CRAWL SPACE: VENTILATED ☒ EXHAUSTED ☐

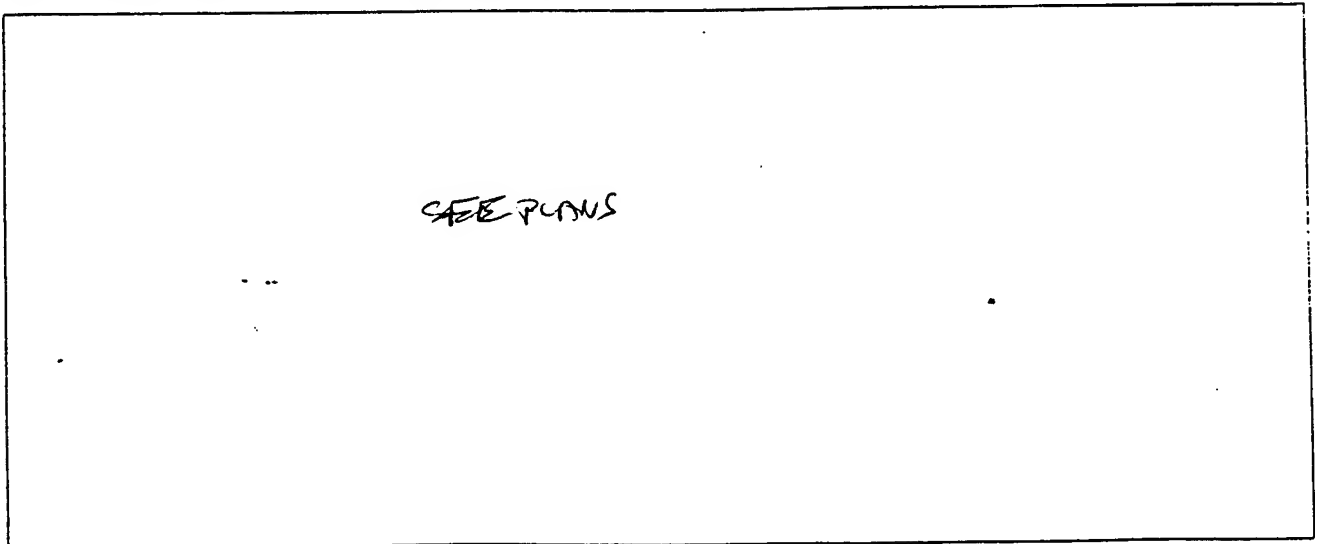
ATTIC: VENTILATED ☐ EXHAUSTED ☐

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



[illegible]

## ARCHITECTURAL WINDOWS & DOORS

## 2.3

2.4 BUILDING ENVELOPE

LOCATION Fit  
BLDG. NO. 409

CONSTRUCTION

WALL  COLOR: D ☐ M ☒ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.68
GULLO		0.39
Plumb. 1 1/2"		7
8" CMU		1.04
INSIDE FILM		0.25
TOTAL		9.36

U-FACTOR  0.11 AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

BUILDING SKIRTING MATERIAL

TYPE: F ☐ P ☐  
COLOR: D ☐ M ☐ L ☐

ROOF (INCL. CLG.)

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.61
PER UP ROOF		0.33
space		0.61
4" BATT		13
Acoustic tile		1.25
INSIDE FILM		0.25
TOTAL		16.1

U-FACTOR  0.06 AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

3.1 HEATING EQUIPMENT

LOCATION FH  
BLDG. NO. 210

Heat Source:

☐ Furnace ☐ Steam Boiler ☒ Hot Water Boiler ☐ Heat Pump ☐ Supplied Steam or Hot Water (External Boiler Plant) ☐ Other \_\_\_\_\_

Capacity: 300 MBtu/Hr or \_\_\_\_\_ Boiler HP or \_\_\_\_\_ Lbs/Hr Steam or \_\_\_\_\_ GPM Hot Water

Manufacturer: Burnham Model No.: 4NW-63-SPL-0 GPC

Boiler/Furnace Control: ☐ Manual ☐ Time Clock ☒ Demand ☐ EMCS ☐ O<sub>2</sub> Trim

Operating Temperature: 192 °F Operating Pressure: \_\_\_\_\_ PSI

Fuel: ☐ Nat. Gas Only ☐ Nat. Gas/ \_\_\_\_\_ Draft: ☐ Forced ☒ Induced  
☒ Other (Specify) Fuel oil

Burner: Mfg. Burnham Model No. PUG.1-0-03 Metering Equipment: ☐ Yes ☒ No

Operating Schedule: Weekdays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

CONT- Weekdays & Holidays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

Operating Season: From \_\_\_\_\_ Mon/Day, to \_\_\_\_\_ Mon/Day

Flue Gas Temperature: \_\_\_\_\_ °F Receiver Tank Conditions: \_\_\_\_\_ PSIG \_\_\_\_\_ °F

If supplied Steam or Hot Water: Steam Pressure \_\_\_\_\_ PSI Hot Water Supply Temp. \_\_\_\_\_ °F Hot Water Return Temp. \_\_\_\_\_ °F

Insulation: (1) Boiler (2) Other (Specify) \_\_\_\_\_  
Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup> Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>  
None ☒ Temp. \_\_\_\_\_ °F None ☐ Temp. \_\_\_\_\_ °F

Pump: No. of Pumps 2 (1 SPARE) V/PH/FLA \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Mfg. BAG Model \_\_\_\_\_ HP 1/3 RPM 1750

HW Pump Starter: ☐ HOA ☐ Reset P/B ☐ S/S Push Button Interlocked with Boiler? ☐ Yes ☐ No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. \_\_\_\_\_ Model \_\_\_\_\_

Condensate Pumps/Hot Water Pumps: Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_

Boiler/Furnace Condition: \_\_\_\_\_

Describe \_\_\_\_\_

Occupant Discomfort (Evaluate): \_\_\_\_\_

HEATING EQUIPMENT

3.2 COOLING EQUIPMENTLOCATION FHL  
BLDG. NO. 210COMPRESSOR(S)/CHILLER

Manufacturer IRANE  
Model No. CGABC256AB10F3  
Size \_\_\_\_\_  
Refrigerant R-22  
Motor HP (if available) \_\_\_\_\_  
Motor Voltage 200V/3φ  
Motor FLA 86  
Measured Amps \_\_\_\_\_

CONDENSER/CONDENSING UNIT

Water Cooled \_\_\_\_\_  
Air Cooled ✓  
Evaporative \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Size \_\_\_\_\_  
Type of Fan CAND-  
Fan Motor HP 321HP  
Fan Motor Voltage 200V/3φ  
Fan Motor FLA 4.1  
Measured Amps \_\_\_\_\_

COOLING TOWER

Gravity \_\_\_\_\_  
Mech. Draft \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Type of Fan N/A  
Fan RPM \_\_\_\_\_  
Fan Motor HP \_\_\_\_\_  
Fan Motor Voltage \_\_\_\_\_  
Fan Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

CHILLED WATER PUMPS (If more than one, how many  
operative during normal operation: 1)

Manufacturer	Model No.	Capacity Gals.	Head, Ft.	Motor HP	Motor Voltage	Motor FLA	Measured Amps RPM
<u>B+G</u>	<u>185011</u>	<u>50 GPM</u>	<u>40 FT</u>	<u>1 1/2</u>	<u>208V</u>	<u>4.8</u>	<u>1745</u>
<u>CA HYDRAULICS</u>	<u>11/2AB</u>	<u>50 GPM</u>	<u>40 FT</u>	<u>1 1/2</u>	<u>208V</u>	<u>4.8 ±</u>	<u>1750</u>

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity, Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

REMARKS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

COOLING EQUIPMENT



### 3.3 AIR HANDLING EQUIPMENT

LOCATION Flh  
BLDG. NO. 210

#### FANS

Type	<u>Box Fan</u>		
Unit/Zone	<u># ALL-7 ZONES</u>	<u>#</u>	<u>#</u>
Manufacturer	<u>TRANE</u>		
Model No.	<u>CLCH</u>		
Type	<u>CCBB2SCBGL0</u>		
RPM of Fan			
Motor HP	<u>SUPPLY 10 HP</u>	<u>RETURN FAN</u>	
Motor Volts	<u>230/3φ</u>	<u>TRANE M/N 27B-9-11F</u>	
Motor FLA	<u>27</u>		
Measured Amps			
CFM (from Plans)			
Notes			

#### COILS

Indicate capacities where found:

COOLING	HUMIDIFICATION
DX _____	ELEC _____
H <sub>2</sub> O _____	STEAM _____
OTHER _____	H <sub>2</sub> O _____
HEATING	OTHER _____
GAS _____	AUX/MISC OTHER _____
H <sub>2</sub> O _____ <u>Y</u>	
ELEC _____	
OTHER _____	

#### FILTERS

Type	<u>GOOD</u>	
Condition		
Manometer Reading 1/		

1/ Record only if manometer is installed on the unit.

AIR HANDLING EQUIPMENT

### 3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

LOCATION Fth  
BLDG. NO. 210

- a. Is System Supported from (check one): ☐ Central Plant ☒ One System per Building  
☐ Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: 110 °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:  
1" 60 FT
- d. Is Piping System Insulated and Condition: YES
- e. Is Hot Water Circulated? YES
- 1) Condition of circulator GOOD 3) Is aquastat provided? NO
- 2) Circulator capacity 30 GPM @ 15 FT 4) Aquastat temperature setting NO

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- |  |                           |      |  |
|--|---------------------------|------|--|
| a. Location                                | <u>MECH</u>               |      |  |
| b. Areas Served                            | <u>ALL</u>                |      |  |
| c. Manufacturer and Model                  | <u>BAX 241E 11-81-256</u> |      |  |
| d. Energy (Oil, Gas, Electric, Coal, Etc.) | <u>PROP</u>               |      |  |
| e. Type Heaters & Quantities:              |                           |      |  |
| 1) Storage                                 |                           |      |  |
| 2) Instantaneous                           |                           |      |  |
| 3) Semi-Instantaneous                      |                           |      |  |
| f. Heater Size and Storage Capacity        | <u>160 GAL</u>            |      |  |
| g. Heating Capacity                        | <u>240 GPH</u>            |      |  |
| h. Type Controls (Air, Steam, Electric)    | <u>FIRE</u>               |      |  |
| i. When Installed & Condition              | <u>GOOD</u>               |      |  |
| j. Heater Temperature Setting              | <u>140°</u>               |      |  |
| k. Average Water Maintained Temperature    | <u>110</u>                |      |  |
| l. Temperature Differential (j) - (k)      | <u>30</u>                 |      |  |
| m. Is Hot Water Supply Adequate:           | <u>YES</u>                |      |  |
| n. Insulation Thickness                    |                           | Type |  |
| o. Insulation Material                     |                           |      |  |

DOMESTIC HOT WATER SYSTEM/EQUIPMENT

LOCATION FHL  
BLDG. NO. 210

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

CONTROL SYSTEM:

CONTROLLERS:

☐

ELECTRIC

☐

PNEUMATIC

☐

ELECTRONIC

OPERATION:

☐

MANUAL

☐

TIME CLOCK

☐

CONTINUOUS

☐

EMCS

☒

DEMAND

MFG \_\_\_\_\_ MODEL \_\_\_\_\_ LOCATION \_\_\_\_\_

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

Reception area + stat set 72°F w/ toggle timer. 4-hour.  
for cooling. (no cover on stat)

M-10 Office behind Reception = same set 90°F

D-2 some installation - Daniel wiring on E wall - outside  
set 65°F on

D-10 in center core of bldg = some control set 67°F

M-1 (ER) some set 90°F.

Center, near M-1: set 85°F

M-12 Pharmacy - some - no access set pt. not found.

CONTROL/MISCELLANEOUS PROCESS/SKETCHES

# 4.2.1 Interior Lighting

## LIGHTING

LOCATION

BLDG.

210

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/ DAY ON	DAYS/ YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT <sup>2</sup> )	WATTS PER SQ. FT. (W/FT <sup>2</sup> )	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS C E I L L I N G	FINISH C E I L L I N G	WINDOW CODE	REMARKS (LIGHTS/SWITCH)
C-21 TOILET	R	F/35	2/35	2												
C-6B TOILET	R	F/35	2/35	1												
C-6A TOILET	R	F/35	2/35	1												
C-6 LAB	R	F/35	2/35	9						50						
C-8 OFFICE	R	F/35	2/35	2						50						
C-11A LAB	R	F/35	2/35	4												
C-15 LAB	R	F/35	2/35	2												
C-11 LAB	R	F/35	2/35	2												
C-12 TOILET	R	F/35	2/35	1												
C-12A TOILET	R	F/35	2/35	2												
C-12	1	F/35	2/35	2												
TOTAL BUILDING LIGHTING ENERGY																

## LIGHTING LEGEND:

### Fixture Types:

Recessed = R  
Suspended = S  
Ventilated = V  
Pole Mounted = PM  
Other--Describe

### Lamp Types:

Incandescent = I  
Fluorescent = F  
Sodium Vapor = SV  
Mercury Vapor = MV  
Metal Halide = MH  
Other--Describe

### Window Code:

If there are windows, indicate:  
Curtains = C  
Shades = S  
No Shading = NS

### Tasks Code:

1 = Corridors  
2 = Kitchens  
3 = Dining  
4 = Offices-general  
5 = Offices-bookkeeping (ledgers only)  
6 = Offices-drafting  
7 = Laundry  
8 = Toilets  
9 = Sleeping quarters  
10 = Supply rooms  
11 = Repair shops  
12 = Storage room  
13 = Retail store (PX, commissary)  
Other (describe on audit form)  
E = Exterior

4.2 Lighting  
4.2.1 Interior Lighting

LOCATION THC BLDG. 210

LIGHTING

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT <sup>2</sup> )	WATTS PER SQ. FT.	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS C E I L L I N G	FINISH C E I L L I N G	WINDOW CODE	REMARKS (LIGHTS/SWITCH)
C11 Exam	R	F/35	4	2												
C13 Exam	R	F/35	4	2												
C9 Office	R	F/35	4	2												
C7 Exam	R	F/35	4	2												
C5 Office	R	F/35	4	2												
C3 Exam	R	F/35	4	2							50					
C-1 Office	R	F/35	4	2												
RECEP	R	F/35	4	12							15					
"	R	F/35	4	2												
M-12 RECEP	R	F/35	4	4												
V-2 AIR-TH	R	F/35	4	2												
TOTAL BUILDING LIGHTING ENERGY																

LIGHTING LEGEND:

Fixture Types:

Recessed = R  
Suspended = S  
Ventilated = V  
Pole Mounted = PM  
Other--Describe

Lamp Types:

Incandescent = I  
Fluorescent = F  
Sodium Vapor = SV  
Mercury Vapor = MV  
Metal Halide = MH  
Other--Describe

Window Code:

If there are windows, indicate:  
Curtains = C  
Shades = S  
No Shading = NS

Tasks Code:

1 = Corridors  
2 = Kitchens  
3 = Dining  
4 = Offices-general  
5 = Offices-bookkeeping (ledgers only)  
6 = Offices-drafting  
7 = Laundry  
8 = Toilets  
9 = Sleeping quarters  
10 = Supply rooms  
11 = Repair shops  
12 = Storage room  
13 = Retail store (PX, commissary)  
Other (describe on audit form)  
E = Exterior

4.2.1 Interior Lighting

BLDG. 210

LOCATION

FAH

LIGHTING

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/ DAY ON	DAYS/ YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT <sup>2</sup> )	WATTS PER SQ. FT. (W/FT <sup>2</sup> )	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS	FINISH	WINDOW CODE	REMARKS (LIGHTS/SWITCH)
M-100	R	F	2 / 35	10												
M-100	R	F	2 / 35	10												
M-100	R	F	2 / 35	3												
M-100	R	F	2 / 35	2												
M-100	R	F	2 / 35	1												
M-100	R	F	2 / 35	2												
M-100	R	F	2 / 35	2												
M-100	R	F	2 / 35	6												
M-100	R	F	2 / 35	2												
M-100	R	F	2 / 35	4												
M-100	R	F	2 / 35	4												
TOTAL BUILDING LIGHTING ENERGY																

LIGHTING LEGEND:

Lamp Types:

Incandescent = I  
Fluorescent = F  
Sodium Vapor = SV  
Mercury Vapor = MV  
Metal Halide = MH  
Other--Describe

Fixture Types:

Recessed = R  
Suspended = S  
Ventilated = V  
Pole Mounted = PM  
Other--Describe

Window Code:

If there are windows, indicate:  
Curtains = C  
Shades = S  
No Shading = NS

Tasks Code:

1 = Corridors  
2 = Kitchens  
3 = Dining  
4 = Offices-general  
5 = Offices-bookkeeping (ledgers only)  
6 = Offices-drafting  
7 = Laundry  
8 = Toilets  
9 = Sleeping quarters  
10 = Supply rooms  
11 = Repair shops  
12 = Storage room  
13 = Retail store (PX, commissary)  
Other (describe on audit form)  
E = Exterior

## LIGHTING

BLDG. 210

LOCATION

FIR

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/ DAY ON	DAYS/ YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT <sup>2</sup> )	WATTS PER SQ. FT. (W/FT <sup>2</sup> )	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS C E I L L I N G	FINISH C E I L L I N G	WINDOW CODE	REMARKS (LIGHTS/SWITCH)
N-9	R	F	2 / 35	3												
M-11	SRF	F	2 / 35	2												
HALL	R	F	2 / 35	10												
P-1 OFFICE	R	F	2 / 35	2												
P-2 OFFICE	R	F	2 / 35	2							56					
P-3 OFFICE	R	F	2 / 35	2												
P-4 OFFICE	R	F	2 / 35	1												
P-7 EXAM	R	F	2 / 35	2							80					
P-5	SRF	F	2 / 35	1												
P-6 EXAM	R	F	2 / 35	2												
P-10 LAB	R	F	2 / 35	3												
TOTAL BUILDING LIGHTING ENERGY																

## LIGHTING LEGEND:

## Lamp Types:

Incandescent = I  
Fluorescent = F  
Sodium Vapor = SV  
Mercury Vapor = MV  
Metal Halide = MH  
Other--Describe

## Window Code:

If there are windows, indicate:  
Curtains = C  
Shades = S  
No Shading = NS

## Tasks Code:

1 = Corridors  
2 = Kitchens  
3 = Dining  
4 = Offices-general  
5 = Offices-bookkeeping (ledgers only)  
6 = Offices-drafting  
7 = Laundry  
8 = Toilets  
9 = Sleeping quarters  
10 = Supply rooms  
11 = Repair shops  
12 = Storage room  
13 = Retail store (PX, commissary)  
Other (describe on audit form)  
E = Exterior

[illegible]

LIGHTING LEGEND:

**Lamp Types:**

Incandescent = I  
Fluorescent = F  
Sodium Vapor = SV  
Mercury Vapor = MV  
Metal Halide = MH  
Other--Describe

**Window Code:**

**If there are windows, indicate:**

Curtains = C  
Shades = S  
No Shading = NS

**Tasks Code:**

1 = Corridors  
2 = Kitchens  
3 = Dining  
4 = Offices-general  
5 = Offices-bookkeeping (ledgers only)  
6 = Offices-drafting  
7 = Laundry  
8 = Toilets  
9 = Sleeping quarters  
10 = Supply rooms  
11 = Repair shops  
12 = Storage room  
13 = Retail store (PX, commissary)  
Other (describe on audit form)  
E = Exterior



# 2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHL SURVEYED BY BIH/RJB/RCL DATE 20 OCT 92  
 BUILDING NUMBER 212 FUNCTION/USE \_\_\_\_\_  
 INFORMATION SOURCE (DWG. NO./PERSON) Mark Hernandez  
& NS-BUILT DWGS

## GENERAL BUILDING DATA

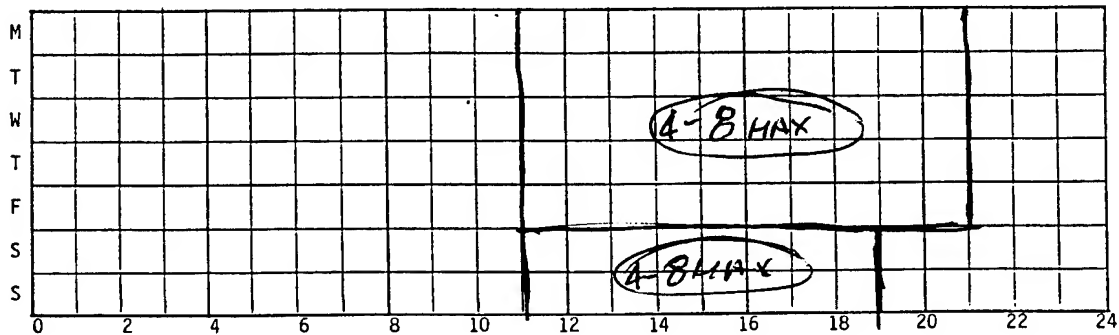
BUILDING AGE: \_\_\_\_\_ YEARS 100ish.

DUPLICATE BUILDING NOS: \_\_\_\_\_  
 TOTAL: \_\_\_\_\_

SIMILAR BUILDING NOS: \_\_\_\_\_  
 TOTAL: \_\_\_\_\_

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) ☐ NO. OF OCCUPANTS see below

Indicate (number and) duration of occupants each day



MISCELLANEOUS EQUIPMENT: Repsi machine,  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

ADDITIONAL COMMENTS, CRITICAL LOADS: none  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

CRAWL SPACE: VENTILATED ☐ EXHAUSTED ☐ SOON  
 ATTIC: VENTILATED ☒ EXHAUSTED ☐ refer to bldg plans

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)

*Refer to as-built plans - marking*

SOUTH ELEVATION (Show floor to ceiling elevations)

*Refer to As-built plans - marking*

BUILDING FLOOR PLAN AND  
ELEVATION SKETCHES

Refer to As-built plans - mark-up

[illegible]

	TOTAL AREA	U-VALUE
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
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99		
100		

**WINDOW TYPES:**

- |                 |                 |
|-----------------|-----------------|
| 1 - DOUBLE HUNG | 4 - CASEMENT    |
| 2 - SINGLE HUNG | 5 - LOUVERED    |
| 3 - SLIDING     | 6 - FIXED GLASS |

**\*\*\*VISIBILITY:**

- E - AWNING  
F - SOLAR SCREEN  
G - OVERHANG  
OTHER - SPECIFY

\*\*\*SHADING:

- A - SOLAR FILM  
B - VEN BLIND  
C - STORM WINDOW  
D - DRAPES

**\*\*FRAME:**

- W - WOOD  
M - METAL  
T - METAL/THERMAL BREAK

**\*GLAZING:**

- 1 - ORDINARY  
2 - 1/4" PLATE  
3 - HEAT ABSORBING  
4 - TINTED

2.4 BUILDING ENVELOPE

*Refer to mark-up of as-built plans*

LOCATION FHC

BLDG. NO. 212

CONSTRUCTION

WALL

COLOR: D

☐

M

☐

L

☒

TYPE: F

☐

P

☒

ROOF (INCL. CLG.)

COLOR: D

☒

M

☐

L

☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR

AREA

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR

AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR

AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR

AREA

BUILDING SKIRTING MATERIAL

## 3.1 HEATING EQUIPMENT

LOCATION FAC  
BLDG. NO. 212

Heat Source:

☒ Furnace ☐ Steam Boiler ☐ Hot Water Boiler ☐ Heat Pump ☐ Supplied Steam or Hot Water (External Boiler Plant) ☐ Other \_\_\_\_\_

2 EA-

Capacity: 168 m Btu/Hr or \_\_\_\_\_ Boiler HP or \_\_\_\_\_ Lbs/Hr Steam or \_\_\_\_\_ GPM Hot WaterManufacturer: LENNOX Model No.: 012Q5-168-1Boiler/Furnace Control: ☐ Manual ☐ Time Clock ☐ Demand ☐ EMCS ☐ O<sub>2</sub> Trim

Operating Temperature: \_\_\_\_\_ °F Operating Pressure: \_\_\_\_\_ PSI

Fuel: ☐ Nat. Gas Only ☐ Nat. Gas/ \_\_\_\_\_  
☒ Other (Specify) PROPANEDraft: ☐ Forced  
☐ InducedBurner: Mfg. \_\_\_\_\_ Model No. \_\_\_\_\_ Metering Equipment: ☐ Yes ☐ No

Operating Schedule: Weekdays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

Weekdays &amp; Holidays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

Operating Season: From \_\_\_\_\_ Mon/Day, to \_\_\_\_\_ Mon/Day

Flue Gas Temperature: \_\_\_\_\_ °F Receiver Tank Conditions: \_\_\_\_\_ PSIG \_\_\_\_\_ °F

If supplied Steam or Hot Water: ~~Steam Pressure \_\_\_\_\_ PSI Hot Water Supply Temp. \_\_\_\_\_ °F Hot Water Return Temp. \_\_\_\_\_ °F~~

Insulation: (1) Boiler

Poor ☒ Area seep loss for WAF's FT<sup>2</sup>  
None ☐ Temp. \_\_\_\_\_ °F

(2) Other (Specify) \_\_\_\_\_

Poor ☐ Area OK FT<sup>2</sup>  
None ☐ Temp. \_\_\_\_\_ °FPump: No. of Pumps NONE V/PH/FLA \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_ RPM \_\_\_\_\_

HW Pump Starter: ☐ HOA ☐ Reset P/B ☐ S/S Push Button Interlocked with Boiler? ☐ Yes ☐ No

WAF-1 vibrates significantly when on - restriction in RA flow or unbalanced flow.  
Could not cause dampers in AHAC to operate  
Dampers seem to both be partly closed (or AFAA)  
readjust and check damper actuators for correct operation.

HEATING EQUIPMENT

### 3.2 COOLING EQUIPMENT

LOCATION FAC  
BLDG. NO. 212

#### COMPRESSOR(S)/CHILLER

Manufacturer LENNOX  
Model No. HS6-1353V-7L  
Size \_\_\_\_\_  
Refrigerant R-22  
Motor HP (if available) \_\_\_\_\_  
Motor Voltage 208V/3φ  
Motor FLA 42.8  
Measured Amps \_\_\_\_\_

#### CONDENSER/CONDENSING UNIT

Water Cooled \_\_\_\_\_  
Air Cooled ✓  
Evaporative \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Size \_\_\_\_\_  
Type of Fan \_\_\_\_\_  
Fan Motor HP 2 @ 1/2 HP  
Fan Motor Voltage 208V/1φ  
Fan Motor FLA 3.4  
Measured Amps \_\_\_\_\_

#### COOLING TOWER

Gravity \_\_\_\_\_  
Mech. Draft \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Type of Fan \_\_\_\_\_  
Fan RPM \_\_\_\_\_  
Fan Motor HP \_\_\_\_\_  
Fan Motor Voltage \_\_\_\_\_  
Fan Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

#### CHILLED WATER PUMPS (If more than one, how many operative during normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

#### CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity, Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

REMARKS: DX coil over WAF's, cond. unit outside - air cooled

COOLING EQUIPMENT

### 3.3 AIR HANDLING EQUIPMENT

LOCATION FHL  
BLOG. NO. 241

#### FANS

Type	2 WARM AIR/DX	MAN'S RM EXHAUST	WORKMANS RM EXHAUST	
Unit/Zone	#	#	#	#
Manufacturer	LENOX			
Model No.				
Type				
RPM of Fan				
Motor HP	3/4	1/2 AC	1/2 AC	
Motor Volts				
Motor FLA				
Measured Amps				
CFM (from Plans)				
Notes				

#### COILS

Indicate capacities where found:

##### COOLING

DX \_\_\_\_\_  
H<sub>2</sub>O \_\_\_\_\_  
OTHER \_\_\_\_\_

##### HEATING

GAS \_\_\_\_\_  
H<sub>2</sub>O \_\_\_\_\_  
ELEC \_\_\_\_\_  
OTHER \_\_\_\_\_

##### HUMIDIFICATION

ELEC \_\_\_\_\_  
STEAM \_\_\_\_\_  
H<sub>2</sub>O \_\_\_\_\_  
OTHER \_\_\_\_\_

##### AUX/MISC OTHER

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

#### FILTERS

Type	SEG PA 3.5		
Condition			
Manometer Reading 1/			

1/ Record only if manometer is installed on the unit.

3.4

DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENTLOCATION FHC  
BLDG. NO. 212

a. Is System Supported from (check one):

☐

Central Plant

☒

One System per Building

☐

Several Small Systems per Building

130°F  
DHW

b. Domestic Hot Water Temperatures provided: \_\_\_\_\_ °F \_\_\_\_\_ °F

c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

d. Is Piping System Insulated and Condition: \_\_\_\_\_

e. Is Hot Water Circulated? \_\_\_\_\_

1) Condition of circulator \_\_\_\_\_

3) Is aquastat provided? \_\_\_\_\_

2) Circulator capacity \_\_\_\_\_

4) Aquastat temperature setting \_\_\_\_\_

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

a. Location

Meach Run

b. Areas Served \_\_\_\_\_

c. Manufacturer and Model

American APPLIANCE MFG MA 75-8 DH

d. Energy (Oil, Gas, Electric, Coal, Etc.)

Propane

e. Type Heaters &amp; Quantities:

1) Storage

1

2) Instantaneous \_\_\_\_\_

3) Semi-Instantaneous \_\_\_\_\_

f. Heater Size and Storage Capacity

80 GAL

g. Heating Capacity

75.5 MBH INPUT63.4 GAL/Hr @ 100°F

h. Type Controls (Air, Steam, Electric) \_\_\_\_\_

i. When Installed &amp; Condition \_\_\_\_\_

j. Heater Temperature Setting \_\_\_\_\_

k. Average Water Maintained Temperature \_\_\_\_\_

l. Temperature Differential (j) - (k) \_\_\_\_\_

m. Is Hot Water Supply Adequate: \_\_\_\_\_

n. Insulation Thickness \_\_\_\_\_

Type \_\_\_\_\_

o. Insulation Material \_\_\_\_\_

DOMESTIC HOT WATER SYSTEM/EQUIPMENT

3.4



# 3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

LOCATION FAL  
BLDG. NO. 212

## CONTROL SYSTEM:

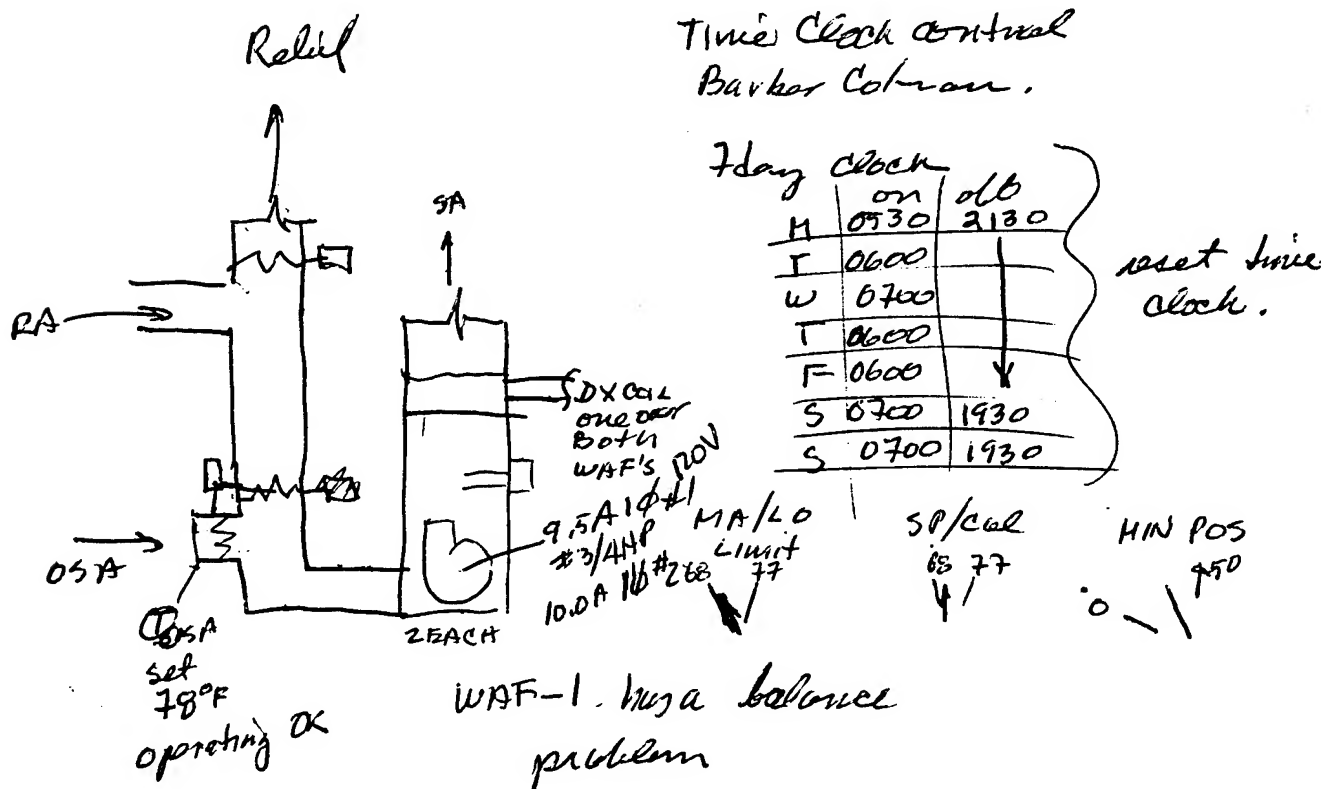
CONTROLLERS: ☐ ELECTRIC ☐ PNEUMATIC  
☒ ELECTRONIC

OPERATION: ☐ MANUAL ☒ TIME CLOCK  
☐ CONTINUOUS ☐ EMCS  
☒ DEMAND

MFG \_\_\_\_\_ MODEL \_\_\_\_\_ LOCATION \_\_\_\_\_

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

insulate 3/4" CR  
8 LF  
DHW line  
from HTR  
Valve's Dampers  
on OSA/RA lines  
appear to be restricting  
air flow



Both Furnaces have mesh filters  
do not cover entire flow area - are clean, but  
not doing the job.

CONTROL/MISCELLANEOUS PROCESS/SKETCHES

## LIGHTING

LOCATION

FHL

BLDG.

212

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/ DAY ON	DAYS/ YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT <sup>2</sup> )	WATTS PER SQ. FT. (W/FT <sup>2</sup> )	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS C E I L I N G	FINISH C E I L I N G	WINDOW CODE	REMARKS (LIGHTS/SWITCH)
4	R	F34	4	2								9			NS	
RACKET CT 1	R	MH 400	1	7												Lights on !!!
RACKET CT 2	R	MH 400	1	7												
EXERCISE ROOM #1	R	MH 400	1	7												
EXERCISE ROOM #2	R	HPS 70	1	12												Canine in office
1 (ext)	S	F34	1	1												
8m	S	F34	2	2												
8m	S	F34	2	2												
8m	S	F34	1	1												
EXERCISE	S	HPS 150	1	3												
PAINT	PM	HPS 250	1	1												
TOTAL BUILDING LIGHTING ENERGY																

\* SAME AS RACKETBALL COURT

## LIGHTING LEGEND:

## Fixture Types:

Recessed = R  
Suspended = S  
Ventilated = V  
Pole Mounted = PM  
Other--Describe

## Lamp Types:

Incandescent = I  
Fluorescent = F  
Sodium Vapor = SV  
Mercury Vapor = MV  
Metal Halide = MH  
Other--Describe

## Window Code:

If there are windows, indicate:  
Curtains = C  
Shades = S  
No Shading = NS

## Tasks Code:

1 = Corridors  
2 = Kitchens  
3 = Dining  
4 = Offices-general  
5 = Offices-bookkeeping (ledgers only)  
6 = Offices-drafting  
7 = Laundry  
8 = Toilets  
9 = Sleeping quarters  
10 = Supply rooms  
11 = Repair shops  
12 = Storage room  
13 = Retail store (PX, commissary)  
Other (describe on audit form)  
E = Exterior

## LIGHTING

BLDG.

LOCATION \_\_\_\_\_

FHL

212

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/ FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/ DAY ON	DAYS/ YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT <sup>2</sup> )	WATTS PER SQ. FT. (W/FT <sup>2</sup> )	MEASURED ILLUMI- NATION (FC)	CEILING HEIGHT (FT)	COLORS		FINISH		WINDOW CODE	REMARKS  (LIGHTS/SWITCH)	
													C E I L I N G	F L O O R	C E I L I N G	F L O O R			
MDA	S	F40	2	1										C E I L I N G	F L O O R	C E I L I N G	F L O O R		
RM																			
														</					

### FIGHTING LEGEND:

**Lamp Types:**

Incandescent = I  
Fluorescent = F  
Sodium Vapor = SV  
Mercury Vapor = MV  
Metal Halide = MH  
Other--Describe

**Window Code:**

If there are windows, indicate:

Curtains	=	C
Shades	=	S
No Shading	=	NS

**Tasks Code:**

	1 = Corridors	6 = Offices-drafting	12 = Storage room
2 = Kitchens		7 = Laundry	13 = Retail store
3 = Dining		8 = Toilets	(PX, commissary)
4 = Offices-general		9 = Sleeping quarters	Other (describe on
5 = Offices-bookkeeping (ledgers only)		10 = Supply rooms	audit form)
		11 = Repair shops	E = Exterior

### Fixture Types:

Recessed = R  
Suspended = S  
Ventilated = V  
Pole Mounted = PM  
Other--Describe

LOCATION FHL  
BLDG. NO. 212

#### 4.3 POWER USAGE SURVEY

##### 4.3.1 CRITICAL LOAD (Computer, Communications)

Describe: None  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4.3.2 RECEPTACLES IN USE      PERCENT

##### 4.3.3 SMALL APPLIANCES IN USE (ENTER COUNT)

Water Cooler 1

Vending Machine 1

Space Heater     

Coffee Pot 1

TV     

XEROX     

Other:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

POWER USAGE SURVEY

4.3

# 2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHL SURVEYED BY RJB/BIH/NCL DATE 225 Oct 92

BUILDING NUMBER 219 FUNCTION/USE Gym, Weight Room, Swimming

INFORMATION SOURCE (DWG. NO./PERSON) Inspection & Sports Director Pool (#211)

## GENERAL BUILDING DATA

BUILDING AGE: \_\_\_\_\_ YEARS new

DUPLICATE BUILDING NOS: NONE

TOTAL: \_\_\_\_\_

SIMILAR BUILDING NOS: NONE

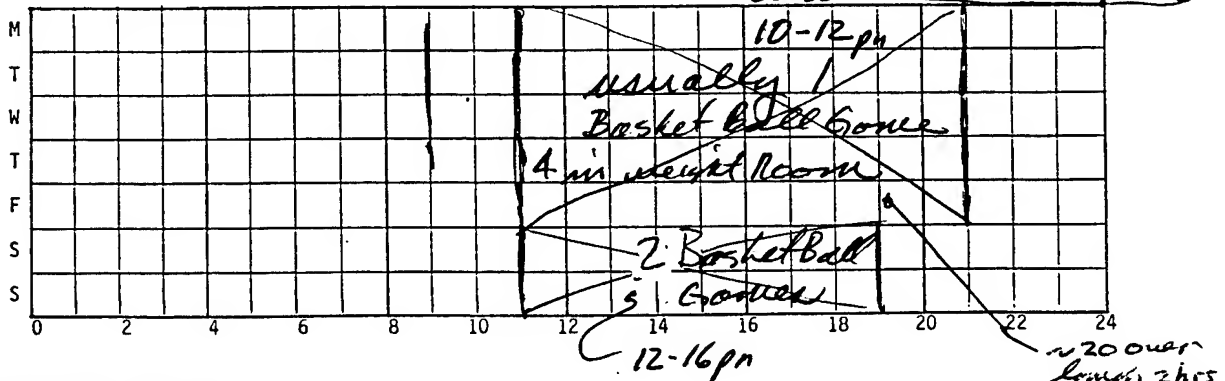
TOTAL: \_\_\_\_\_

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) ☐

NO. OF OCCUPANTS \_\_\_\_\_

Indicate (number and) duration of occupants each day

Pool 11-1800 7d/week  
closed 2 Oct - mid-April



MISCELLANEOUS EQUIPMENT: \_\_\_\_\_

Swimming pool: normally closed 1 Oct thru mid-April  
Heater used only for first 2 to 2 1/2 months, then  
turned off.

ADDITIONAL COMMENTS, CRITICAL LOADS: \_\_\_\_\_

CRAWL SPACE: VENTILATED ☐ EXHAUSTED ☐ SOG

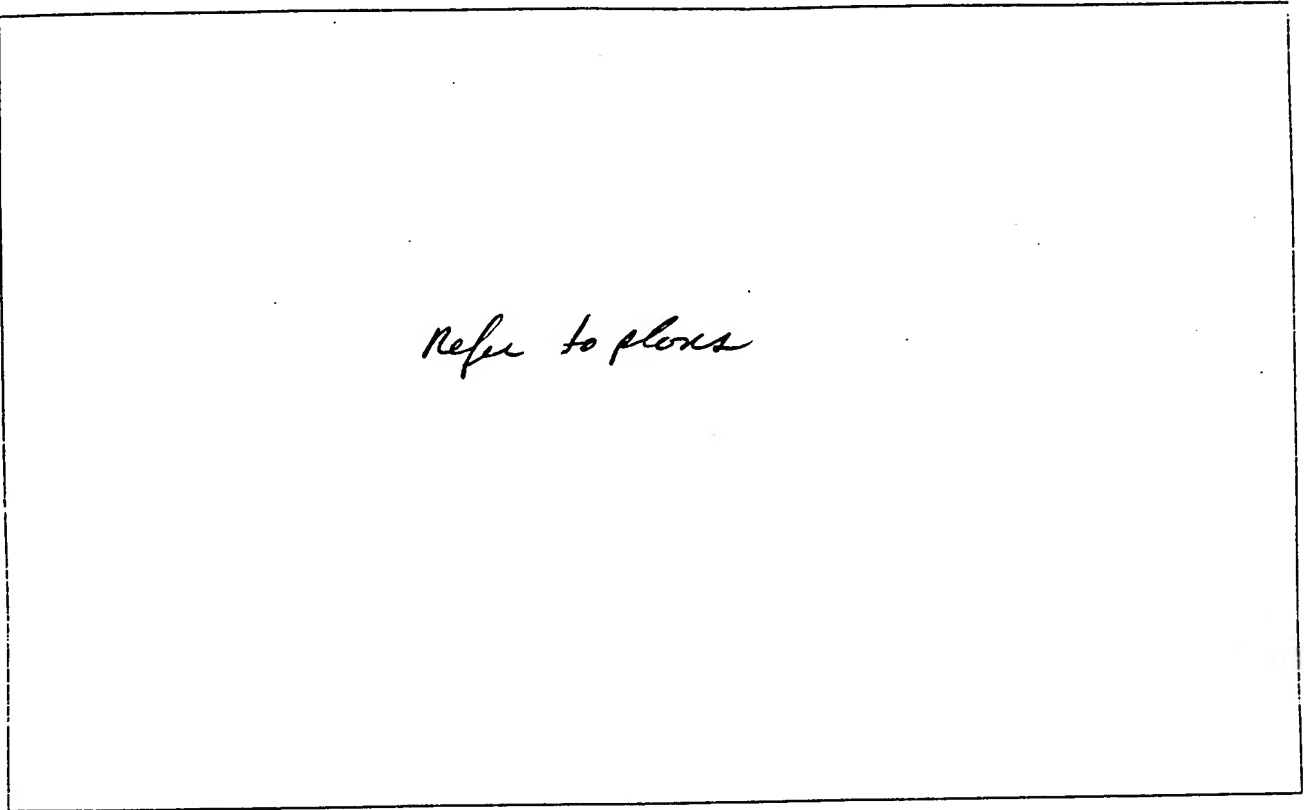
ATTIC: VENTILATED ☐ EXHAUSTED ☐ NONE

ARCHITECTURE--MISCELLANEOUS

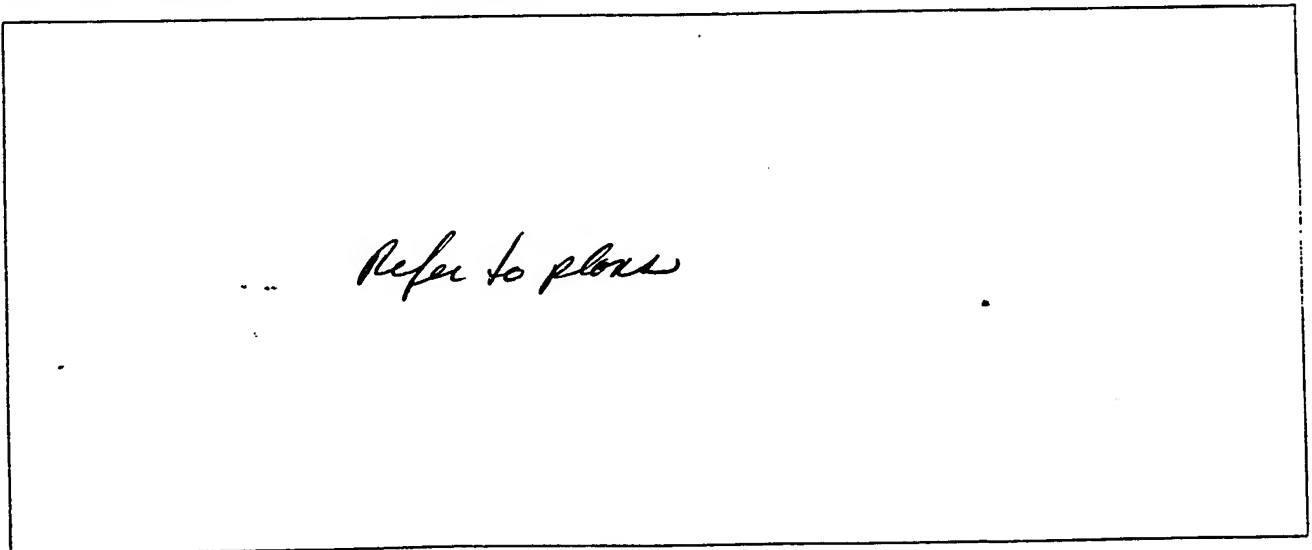
LOCATION F17L  
BLOG. NO. 219

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



BUILDING FLOOR PLAN AND  
ELEVATION SKETCHES

	TOTAL AREA	U-VALUE
1		
2		
3		
4		
5		
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11		
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98		
99		
100		

**WINDOW TYPES:**

\*\*\*VISIBILITY:

\*\*\*SHADING:

\*\*\*FRAME:

## ACCLAZING:

1 - DOUBLE HUNG	4 - CASEMENT
2 - SINGLE HUNG	5 - LOUVERED
3 - SLIDING	6 - FIXED GLASS

E - AWNING  
F - SOLAR SCREEN  
G - OVERHANG  
OTHER - SPECIFY

A - SOLAR FILM  
B - VEN BLIND  
C - STORM WINDOW  
D - DRAPES

W - WOOD  
M - METAL  
T - METAL/THERMAL BREAK

GLAZING.

1	-	ORDINARY
2	-	1" PLATE
3	-	HEAT ABSORBING
4	-	TINTED

2.4 BUILDING ENVELOPE

LOCATION FHL  
BLDG. NO. 219

CONSTRUCTION

WALL Gym COLOR: D ☐ M ☐ L ☒

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.25
8" CONCRETE	8"	2.18
BRICK		
ACUSTIC PANELS		1.00
INSIDE FILM		.68
TOTAL		4.11

U-FACTOR 0.24 AREA

FLOOR SOB Lino/Carminale

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

BUILDING SKIRTING MATERIAL

ROOF (INCL. CLG.)

TYPE: F ☐ P ☐  
COLOR: D ☐ M ☒ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.25
CONC. SLAB		0.86
RIGID INSUL.	1"	4.00
INSIDE FILM		.68
TOTAL		5.79

U-FACTOR 0.17 AREA

DOOR Red Metal

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

BUILDING ENVELOPE



### 3.1 HEATING EQUIPMENT

LOCATION FHL  
BLDG. NO. 219

Heat Source:

☐ Furnace ☐ Steam Boiler ☒ Hot Water Boiler ☐ Heat Pump ☐ Supplied Steam or Hot Water (External Boiler Plant) ☐ Other \_\_\_\_\_

Capacity: 650 IN MBTH  
520 OUT MBtu/Hr or \_\_\_\_\_ Boiler HP or \_\_\_\_\_ Lbs/Hr Steam or \_\_\_\_\_ GPM Hot Water

Manufacturer: BRYAN Model No.: FN-650-W-LPGI

Boiler/Furnace Control: ☐ Manual ☒ Time Clock ☐ Demand ☐ EMCS ☐ O<sub>2</sub> Trim

Operating Temperature: 180 °F Operating Pressure: \_\_\_\_\_ PSI

Fuel: ☐ Nat. Gas Only ☐ Nat. Gas/ \_\_\_\_\_ Draft: ☐ Forced ☒ Induced  
☒ Other (Specify) PROPANE

Burner: Mfg. \_\_\_\_\_ Model No. \_\_\_\_\_ Metering Equipment: ☐ Yes ☐ No

Operating Schedule: Weekdays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

Weekdays & Holidays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

Operating Season: From \_\_\_\_\_ Mon/Day, to \_\_\_\_\_ Mon/Day

Flue Gas Temperature: \_\_\_\_\_ °F Receiver Tank Conditions: \_\_\_\_\_ PSIG \_\_\_\_\_ °F

If supplied Steam or Hot Water: Steam Pressure \_\_\_\_\_ PSI Hot Water Supply Temp. \_\_\_\_\_ °F Hot Water Return Temp. \_\_\_\_\_ °F

Insulation: (1) Boiler (2) Other (Specify) \_\_\_\_\_  
Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup> Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>  
None ☐ Temp. \_\_\_\_\_ °F None ☐ Temp. \_\_\_\_\_ °F

Pump: No. of Pumps \_\_\_\_\_ V/PH/FLA \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_ RPM \_\_\_\_\_

HW Pump Starter: ☐ HOA ☐ Reset P/B ☐ S/S Push Button Interlocked with Boiler? ☐ Yes ☐ No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. \_\_\_\_\_ Model \_\_\_\_\_

Condensate Pumps/Hot Water Pumps: Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_

Boiler/Furnace Condition: \_\_\_\_\_

Describe \_\_\_\_\_

Occupant Discomfort (Evaluate): \_\_\_\_\_

HEATING EQUIPMENT

### 3.1 HEATING EQUIPMENT

LOCATION FHL  
BLDG. NO. 211  
(POOL)

Heat Source:

☐ Furnace ☐ Steam Boiler ☒ Hot Water Boiler ☐ Heat Pump ☐ Supplied Steam or Hot Water (External Boiler Plant) ☐ Other \_\_\_\_\_

1200 MBH IN

Capacity: 972 m Btu/Hr or \_\_\_\_\_ Boiler HP or \_\_\_\_\_ Lbs/Hr Steam or \_\_\_\_\_ GPM Hot Water

Manufacturer: TELEDYNE LARS Model No.: AP1430IP16C01

Boiler/Furnace Control: ☐ Manual ☐ Time Clock ☐ Demand ☐ EMCS ☐ O<sub>2</sub> Trim

Operating Temperature: \_\_\_\_\_ °F Operating Pressure: \_\_\_\_\_ PSI

Fuel: ☐ Nat. Gas Only ☐ Nat. Gas/ \_\_\_\_\_ Draft: ☐ Forced ☒ Other (Specify) PROPANE ☐ Induced

Burner: Mfg. \_\_\_\_\_ Model No. \_\_\_\_\_ Metering Equipment: ☐ Yes ☐ No

Operating Schedule: Weekdays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

Weekdays & Holidays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

Operating Season: From \_\_\_\_\_ Mon/Day, to \_\_\_\_\_ Mon/Day

Flue Gas Temperature: \_\_\_\_\_ °F Receiver Tank Conditions: \_\_\_\_\_ PSIG \_\_\_\_\_ °F

If supplied Steam or Hot Water: Steam Pressure \_\_\_\_\_ PSI Hot Water Supply Temp. \_\_\_\_\_ °F Hot Water Return Temp. \_\_\_\_\_ °F

Insulation: (1) Boiler (2) Other (Specify) \_\_\_\_\_  
Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup> Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>  
None ☐ Temp. \_\_\_\_\_ °F None ☐ Temp. \_\_\_\_\_ °F

Pump: No. of Pumps 1 VARIFLEX 87.5% EFF. 460V  
Mfg. MAGNETEK Model CAT No. R338 HP 10 RPM 3520  
HW Pump Starter: ☐ HOA ☐ Reset P/B ☐ S/S Push Button Interlocked with Boiler? ☐ Yes ☐ No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. \_\_\_\_\_ Model \_\_\_\_\_

Condensate Pumps/Hot Water Pumps: Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_

Boiler/Furnace Condition: \_\_\_\_\_

Describe \_\_\_\_\_

Occupant Discomfort (Evaluate): \_\_\_\_\_

HEATING EQUIPMENT

3.1A

3.2 COOLING EQUIPMENTLOCATION FHL  
BLDG. NO. 219COMPRESSOR(S)/CHILLER

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Size \_\_\_\_\_  
Refrigerant \_\_\_\_\_  
Motor HP (if available) \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

CONDENSER/CONDENSING UNIT

Water Cooled \_\_\_\_\_  
Air Cooled \_\_\_\_\_  
Evaporative \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Size \_\_\_\_\_  
Type of Fan \_\_\_\_\_  
Fan Motor HP \_\_\_\_\_  
Fan Motor Voltage \_\_\_\_\_  
Fan Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

COOLING TOWER

Gravity \_\_\_\_\_  
Mech. Draft \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Type of Fan \_\_\_\_\_  
Fan RPM \_\_\_\_\_  
Fan Motor HP \_\_\_\_\_  
Fan Motor Voltage \_\_\_\_\_  
Fan Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

CHILLED WATER PUMPS (If more than one, how many  
operative during normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity, Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

REMARKS: \_\_\_\_\_

8 EVAPORATIVE COOLERS - ARVIN - 1 1/2 HP 208V/3PCOOLING EQUIPMENT

### 3.3 AIR HANDLING EQUIPMENT

LOCATION FHL  
BLDG. NO. 219

#### FANS

Type	AHU - HEATING ONLY			11 4V UNIT (3 EAZIT)		
Unit/Zone	#	WEIGHT RM.	#	GYM	#	
Manufacturer	TRANE					
Model No.	TVDR03AG0K0ARR02			NAME PLATES PAINTED OVER		
Type						
RPM of Fan						
Motor HP	1 1/2 P					
Motor Volts	208V			208V/3P		
Motor FLA						
Measured Amps				8.8 A		
CFM (from Plans)						
Notes						

#### COILS

Indicate capacities where found:

##### COOLING

DX \_\_\_\_\_

H<sub>2</sub>O \_\_\_\_\_

OTHER \_\_\_\_\_

##### HUMIDIFICATION

ELEC \_\_\_\_\_

STEAM \_\_\_\_\_

H<sub>2</sub>O \_\_\_\_\_

OTHER \_\_\_\_\_

##### HEATING

GAS \_\_\_\_\_

H<sub>2</sub>O ☒ \_\_\_\_\_

ELEC \_\_\_\_\_

OTHER \_\_\_\_\_

##### AUX/MISC OTHER

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

#### FILTERS

Type	_____	_____	_____
Condition	_____	_____	_____
Manometer Reading 1/	_____	_____	_____

1/ Record only if manometer is installed on the unit.

### 3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

LOCATION FHL  
BLDG. NO. 219

- a. Is System Supported from (check one): ☐ Central Plant ☒ One System per Building  
☐ Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: \_\_\_\_\_ °F \_\_\_\_\_ °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- d. Is Piping System Insulated and Condition: \_\_\_\_\_
- e. Is Hot Water Circulated? \_\_\_\_\_  
1) Condition of circulator \_\_\_\_\_ 3) Is aquastat provided? \_\_\_\_\_  
2) Circulator capacity \_\_\_\_\_ 4) Aquastat temperature setting \_\_\_\_\_

#### DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- |  |                        |            |       |
|--|------------------------|------------|-------|
| a. Location                                | _____                  | _____      | _____ |
| b. Areas Served                            | _____                  | _____      | _____ |
| c. Manufacturer and Model                  | HOT 110 80-500RW-3 LPG |            |       |
| d. Energy (Oil, Gas, Electric, Coal, Etc.) | _____                  | _____      | _____ |
| e. Type Heaters & Quantities:              |                        |            |       |
| 1) Storage                                 | 512 MBIT PROPANE       |            |       |
| 2) Instantaneous                           | _____                  | _____      | _____ |
| 3) Semi-Instantaneous                      | _____                  | _____      | _____ |
| f. Heater Size and Storage Capacity        | 80 GALS.               |            |       |
| g. Heating Capacity                        | 465.5 GPH REMOVING     |            |       |
| h. Type Controls (Air, Steam, Electric)    | _____                  | _____      | _____ |
| i. When Installed & Condition              | _____                  | _____      | _____ |
| j. Heater Temperature Setting              | _____                  | _____      | _____ |
| k. Average Water Maintained Temperature    | 120° F                 |            |       |
| l. Temperature Differential (j) - (k)      | _____                  | _____      | _____ |
| m. Is Hot Water Supply Adequate:           | _____                  | _____      | _____ |
| n. Insulation Thickness                    | _____                  | _____      | _____ |
| o. Insulation Material                     | _____                  | Type _____ | _____ |

LOCATION FHL  
BLDG. NO. 219

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

CONTROL SYSTEM:

CONTROLLERS: ☐ ELECTRIC ☐ PNEUMATIC  
☐ ELECTRONIC

OPERATION: ☐ MANUAL ☒ TIME CLOCK  
☐ CONTINUOUS ☐ EMCS  
☒ DEMAND

MFG \_\_\_\_\_ MODEL \_\_\_\_\_ LOCATION \_\_\_\_\_

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

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*Locker Rooms*  
*Have a night set-back & day*  
*thermostat sensors*

*Gym has the same*

7.19

[illegible]

### LIGHTING LEGEND:

**Fixture Types:**

Recessed = R  
Suspended = S  
Ventilated = V  
Pole Mounted = PM  
Other--Describe

Lamp Types:

Incandescent = I  
Fluorescent = F  
Sodium Vapor = SV  
Mercury Vapor = MV  
Metal Halide = MH  
Other--Describe

Window Code:

If there are windows, indicate:

Curtains = C  
Shades = S  
No Shading = NS

**Tasks Code:**

1 = Corridors  
2 = Kitchens  
3 = Dining  
4 = Offices-general  
5 = Offices-bookkeeping  
(ledgers only)  
6 = Offices-drafting  
7 = Laundry  
8 = Toilets  
9 = Sleeping quarters  
10 = Supply rooms  
11 = Repair shops  
12 = Storage room  
13 = Retail store  
(PX, commissary)  
Other (describe on  
audit form)  
E = Exterior





2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)

USED AS-BUILT PLANS PROVIDED

SOUTH ELEVATION (Show floor to ceiling elevations)

USED AS-BUILT PLANS PROVIDED

BUILDING FLOOR PLAN AND  
ELEVATION SKETCHES

[illegible]

LEGEND:

**\*\*\*SHADING:**

**\*\*\*VISIBILITY:**

**WINDOW TYPES:**

W - WOOD  
M - METAL  
T - METAL/THERMAL BREAK

1 - ORDINARY  
2 - 1/4" PLATE  
3 - HEAT ABSORBING  
4 - TINTED

A - SOLAR FILM  
B - VEN BLIND  
C - STORM WINDOW  
D - DRAPES  
E - AWNING  
F - SOLAR SCREEN  
G - OVERHANG  
OTHER - SPECIFY

1 - DOUBLE HUNG	4 - CASEMENT
2 - SINGLE HUNG	5 - LOUVERED
3 - SLIDING	6 - FIXED GLASS

## 2.4 BUILDING ENVELOPE

LOCATION FHL  
BLDG. NO. 229/229A

## CONSTRUCTION

WALL ALL COLOR: D ☐ M ☐ L ☒

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
STUCCO	$\frac{1}{2}$ "	
RIGID INSUL.	1"	
AIR SPACE	1"	
CMU	8"	
INSIDE FILM		
TOTAL		

U-FACTOR  AREA FLOOR S.O.G

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA BUILDING SKIRTING MATERIAL 

## ROOF (INCL. CLG.)

TYPE: F ☐ P ☐  
COLOR: D ☐ M ☐ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
B. V. R.		
RIGID INSUL.	4"	
LW CONCRETE/ METAL DECK	6"	
AIR SPACE		
SAS CEILING	$\frac{1}{2}$ "	
INSIDE FILM		
TOTAL		

U-FACTOR  AREA DOOR 

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

LOCATION FHL  
BLDG. NO. 229/229A

3.1 HEATING EQUIPMENT

Heat Source:

☐ Furnace ☐ Steam Boiler ☒ Hot Water Boiler ☐ Heat Pump ☐ Supplied Steam or Hot Water (External Boiler Plant) ☐ Other \_\_\_\_\_

Capacity: 1,875 MBtu/Hr or \_\_\_\_\_ Boiler HP or \_\_\_\_\_ Lbs/Hr Steam or \_\_\_\_\_ GPM Hot Water

Manufacturer: HURST Model No.: EB 225-30-0

Boiler/Furnace Control: ☐ Manual ☐ Time Clock ☒ Demand ☐ EMCS ☐ O<sub>2</sub> Trim

Operating Temperature: 190 °F Operating Pressure: 16 PSI

Fuel: ☐ Nat. Gas Only ☐ Nat. Gas/ \_\_\_\_\_ Draft: ☒ Forced ☐ Induced  
☒ Other (Specify) F.O.

Burner: Mfg. GORDON PLATT Model No. R8-3-0-15 Metering Equipment: ☐ Yes ☐ No

Operating Schedule: Weekdays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_  
Weekdays & Holidays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_  
Operating Season: From \_\_\_\_\_ Mon/Day, to \_\_\_\_\_ Mon/Day

Flue Gas Temperature: \_\_\_\_\_ °F Receiver Tank Conditions: \_\_\_\_\_ PSIG \_\_\_\_\_ °F

If supplied Steam or Hot Water: Steam Pressure \_\_\_\_\_ PSI Hot Water Supply Temp. \_\_\_\_\_ °F Hot Water Return Temp. \_\_\_\_\_ °F

Insulation: (1) Boiler (2) Other (Specify) \_\_\_\_\_  
Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup> Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>  
None ☐ Temp. \_\_\_\_\_ °F None ☐ Temp. \_\_\_\_\_ °F

Pump: No. of Pumps 2 V/PH/FLA \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Mfg. PALCO Model \_\_\_\_\_ HP 1 1/2 RPM 1725  
HW Pump Starter: ☐ HOA ☐ Reset P/B ☐ S/S Push Button Interlocked with Boiler? ☐ Yes ☐ No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. \_\_\_\_\_ Model \_\_\_\_\_

Condensate Pumps/Hot Water Pumps: Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_

Boiler/Furnace Condition: \_\_\_\_\_  
Describe \_\_\_\_\_

Occupant Discomfort (Evaluate): \_\_\_\_\_

HEATING EQUIPMENT

3.2 COOLING EQUIPMENTLOCATION FHL  
BLDG. NO. 229/229ACOMPRESSOR(S)/CHILLER

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Size \_\_\_\_\_  
Refrigerant \_\_\_\_\_  
Motor HP (if available) \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

CONDENSER/CONDENSING UNIT

Water Cooled \_\_\_\_\_  
Air Cooled \_\_\_\_\_  
Evaporative \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Size \_\_\_\_\_  
Type of Fan \_\_\_\_\_  
Fan Motor HP \_\_\_\_\_  
Fan Motor Voltage \_\_\_\_\_  
Fan Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

COOLING TOWER

Gravity \_\_\_\_\_  
Mech. Draft \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Type of Fan \_\_\_\_\_  
Fan RPM \_\_\_\_\_  
Fan Motor HP \_\_\_\_\_  
Fan Motor Voltage \_\_\_\_\_  
Fan Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

CHILLED WATER PUMPS (If more than one, how many  
operative during normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity, Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

REMARKS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

COOLING EQUIPMENT

### 3.3 AIR HANDLING EQUIPMENT

#### FANS

Type	_____	_____	_____	_____
Unit/Zone	# _____	# _____	# _____	# _____
Manufacturer	_____	_____	_____	_____
Model No.	_____	_____	_____	_____
Type	_____	_____	_____	_____
RPM of Fan	_____	_____	_____	_____
Motor HP	_____	_____	_____	_____
Motor Volts	_____	_____	_____	_____
Motor FLA	_____	_____	_____	_____
Measured Amps	_____	_____	_____	_____
CFM (from Plans)	_____	_____	_____	_____
Notes	_____	_____	_____	_____

#### COILS

Indicate capacities where found:

COOLING	HUMIDIFICATION
DX _____	ELEC _____
H <sub>2</sub> O _____	STEAM _____
OTHER _____	H <sub>2</sub> O _____
	OTHER _____
HEATING	AUX/MISC OTHER
GAS _____	_____
H <sub>2</sub> O _____	_____
ELEC _____	_____
OTHER _____	_____

#### FILTERS

Type	_____	_____	_____
Condition	_____	_____	_____
Manometer Reading <sup>1/</sup>	_____	_____	_____

<sup>1/</sup> Record only if manometer is installed on the unit.

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

- a. Is System Supported from (check one): ☐ Central Plant ☐ One System per Building  
☐ Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: \_\_\_\_\_ °F \_\_\_\_\_ °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- d. Is Piping System Insulated and Condition: \_\_\_\_\_
- e. Is Hot Water Circulated? \_\_\_\_\_  
1) Condition of circulator \_\_\_\_\_ 3) Is aquastat provided? \_\_\_\_\_  
2) Circulator capacity \_\_\_\_\_ 4) Aquastat temperature setting \_\_\_\_\_

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- |  |       |            |       |
|--|-------|------------|-------|
| a. Location                                | _____ | _____      | _____ |
| b. Areas Served                            | _____ | _____      | _____ |
| c. Manufacturer and Model                  | _____ | _____      | _____ |
| d. Energy (Oil, Gas, Electric, Coal, Etc.) | _____ | _____      | _____ |
| e. Type Heaters & Quantities:              |       |            |       |
| 1) Storage                                 | _____ | _____      | _____ |
| 2) Instantaneous                           | _____ | _____      | _____ |
| 3) Semi-Instantaneous                      | _____ | _____      | _____ |
| f. Heater Size and Storage Capacity        | _____ | _____      | _____ |
| g. Heating Capacity                        | _____ | _____      | _____ |
| h. Type Controls (Air, Steam, Electric)    | _____ | _____      | _____ |
| i. When Installed & Condition              | _____ | _____      | _____ |
| j. Heater Temperature Setting              | _____ | _____      | _____ |
| k. Average Water Maintained Temperature    | _____ | _____      | _____ |
| l. Temperature Differential (j) - (k)      | _____ | _____      | _____ |
| m. Is Hot Water Supply Adequate:           | _____ | _____      | _____ |
| n. Insulation Thickness                    | _____ | Type _____ | _____ |
| o. Insulation Material                     | _____ | _____      | _____ |

LOCATION FHL  
BLDG. NO. 229/229A

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

CONTROL SYSTEM:

CONTROLLERS: ☐ ELECTRIC ☐ PNEUMATIC  
☐ ELECTRONIC

OPERATION: ☐ MANUAL ☐ TIME CLOCK  
☐ CONTINUOUS ☐ EMCS  
☐ DEMAND

MFG \_\_\_\_\_ MODEL \_\_\_\_\_ LOCATION \_\_\_\_\_

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

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A Section: Control by Honeywell H/C thermostat  
T874A 1036 Temp 72° set  
db/50°F  
reset to 78°F



#### 4.2.1 Interior Lighting

## LIGHTING

**LOCATION**

七

**BLDG.**

229/229A

[illegible]

LIGHTING LEGEND:

**Fixture Types:**

Recessed = R  
Suspended = S  
Ventilated = V  
Pole Mounted = PM  
Other--Describe

**Lamp Types:**

Incandescent = I  
Fluorescent = F  
Sodium Vapor = SV  
Mercury Vapor = MV  
Metal Halide = MH  
Other--Describe

**Window Code:**

If there are windows, indicate:

Curtains = C  
Shades = S  
No Shading = NS

**Tasks Code:**

1 = Corridors  
2 = Kitchens  
3 = Dining  
4 = Offices-general  
5 = Offices-bookkeeping (ledgers only)  
6 = Offices-drafting  
7 = Laundry  
8 = Toilets  
9 = Sleeping quarters  
10 = Supply rooms  
11 = Repair shops  
12 = Storage room  
13 = Retail store (PX, commissary)  
Other (describe on audit form)  
E = Exterior

LIGHTING  
4.2.1

**LOCATION**

F17L

**SURVEYED BY**

B117 - RJR

DATE \_\_\_\_\_

Oct '92

BUILDING NUMBER

230/230A

FUNCTION/USE

BARRACKS / OFFICES

INFORMATION SOURCE (DWG. NO./PERSON)

SANJAY / AS-BUILT DWGS

**BUILDING AGE:**

15-

YEARS

DUPLICATE BUILDING NOS:

TOTAL:

SIMILAR BUILDING NOS:

**TOTAL:**

**BUILDING OCCUPANCY:**

CONTINUOUS (24 HRS/DAY)



NO. OF OCCUPANTS

80-230

Indicate (number and) duration of occupants each day

10-230A

**MISCELLANEOUS EQUIPMENT:**

ADDITIONAL COMMENTS, CRITICAL LOADS:

**CRAWL SPACE:**

VENTILATED



EXHAUSTED



SoG + nicht-Elwip. Rm.  
Bew. GRADE

ATTIC:

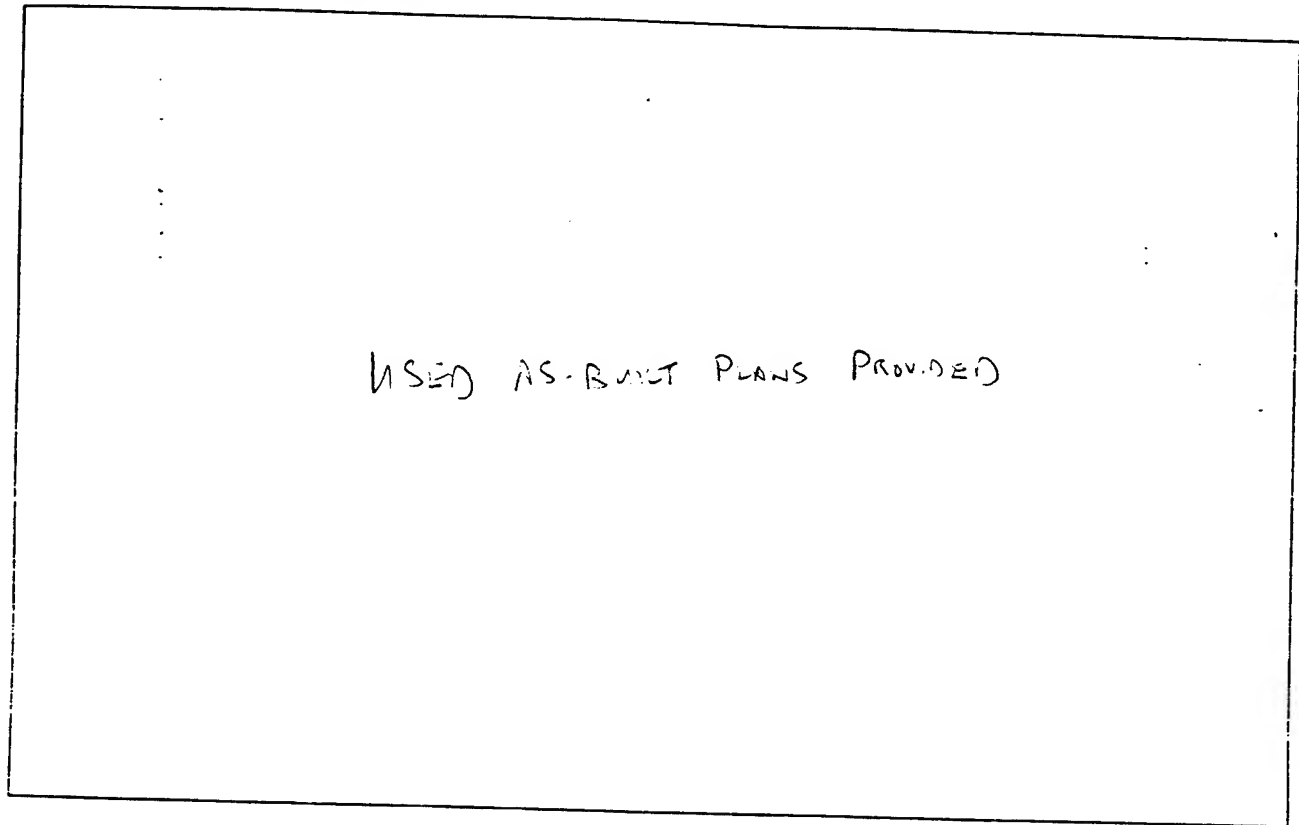
VENTILATED



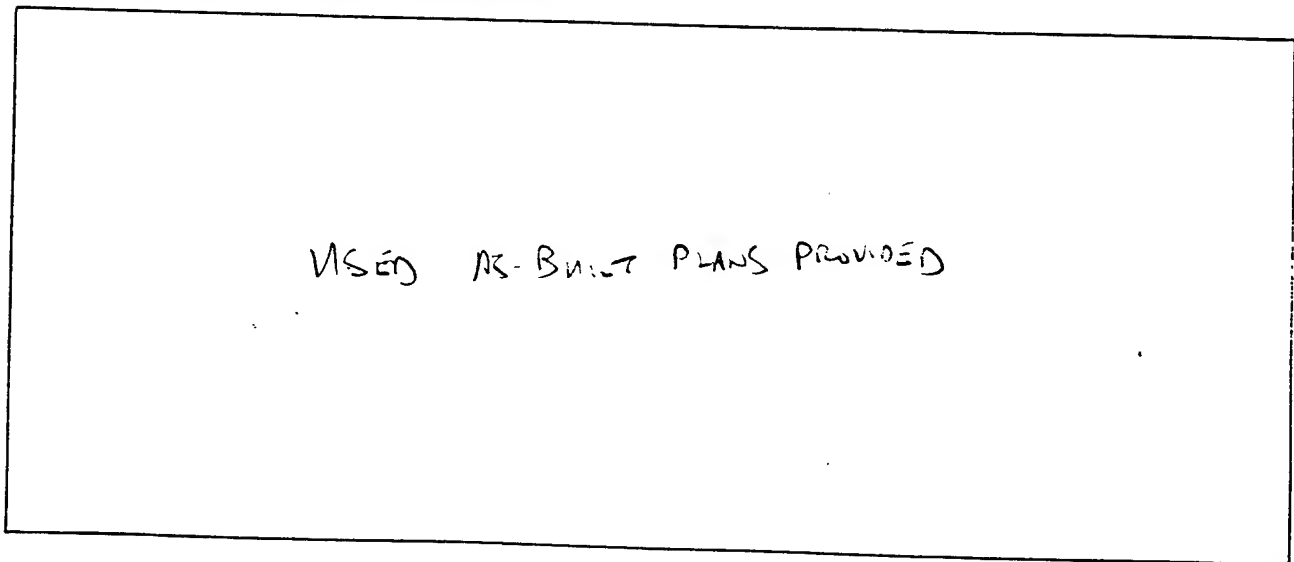
EXHAUSTED



FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



LOCATION KAL  
BLDG. NO. 230/230A

[illegible]

LEGEND:

**WINDOW TYPES:**

1 - DOUBLE HUNG	4 - CASEMENT
2 - SINGLE HUNG	5 - LOWEDED
3 - SLIDING	6 - FIXED GLASS

\*\*\*VISIBILITY:\*\*\*  
 E - AWNING  
 F - SOLAR SCREEN  
 G - OVERHANG  
 OTHER - SPECIFY

**\*\*\*SHADING:**

A - SOLAR FILM  
B - VEN BLIND  
C - STORM WINDOW  
D - DRAPES

W - WOOD  
M - METAL  
T - METAL/THERMAL BREAK

**\*GLAZING:**

1 -	ORDINARY
2 -	1" PLATE
3 -	HEAT ABSORBING
4 -	TINTED

## 2.4 BUILDING ENVELOPE

LOCATION KHL  
BLDG. NO. 230/230A

## CONSTRUCTION

WALL  COLOR: D ☐ M ☐ L ☒

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
Stucco	1/2"	
RIGID INSUL.	1"	
AIR SPACE	1"	
CMU	8"	
INSIDE FILM		
TOTAL		

U-FACTOR  AREA FLOOR SOG

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA BUILDING SKIRTING MATERIAL 

## ROOF (INCL. CLG.)

TYPE: F ☒ P ☐  
COLOR: D ☐ M ☐ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
BUILT-UP ROOF		
RIGID INSUL.	4"	
L.W. CONCRETE METAL DECK	6"	
AIR SPACE		
SUS. CEILING		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA DOOR 

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA 

BUILDING ENVELOPE

### 3.1 HEATING EQUIPMENT

LOCATION FAL  
BLDG. NO. 230/230A

Heat Source:

☐ Furnace ☐ Steam Boiler ☒ Hot Water Boiler ☐ Heat Pump ☐ Supplied Steam or Hot Water (External Boiler Plant) ☐ Other \_\_\_\_\_

Capacity: 1875 M Btu/Hr or \_\_\_\_\_ Boiler HP or \_\_\_\_\_ Lbs/Hr Steam or \_\_\_\_\_ GPM Hot Water

Manufacturer: HURST Model No.: EB225-30-0

Boiler/Furnace Control: ☐ Manual ☐ Time Clock ☒ Demand ☐ EMCS ☐ O<sub>2</sub> Trim

Operating Temperature: 190 °F Operating Pressure: 16 PSI

Fuel: ☐ Nat. Gas Only ☐ Nat. Gas/ \_\_\_\_\_  
☒ Other (Specify) K-o

Draft: ☒ Forced  
\_\_\_\_\_ Induced

Burner: Mfg. GURDON PLATT Model No. R8.3-0-15 Metering Equipment: ☐ Yes ☐ No

Operating Schedule: Weekdays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day

Weekdays & Holidays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day

Operating Season: From \_\_\_\_\_ Mon/Day, to \_\_\_\_\_ Mon/Day

Flue Gas Temperature: \_\_\_\_\_ °F Receiver Tank Conditions: \_\_\_\_\_ PSIG \_\_\_\_\_ °F

If supplied Steam or Hot Water: Steam Pressure \_\_\_\_\_ PSI Hot Water Supply Temp. \_\_\_\_\_ °F Hot Water Return Temp. \_\_\_\_\_ °F

Insulation: (1) Boiler (2) Other (Specify) \_\_\_\_\_  
Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup> Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>  
None ☐ Temp. \_\_\_\_\_ °F None ☐ Temp. \_\_\_\_\_ °F

Pump: No. of Pumps 2 V/PH/FLA \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Mfg. PALCO Model \_\_\_\_\_ HP 1 1/2 RPM 1725

HW Pump Starter: ☐ HOA ☐ Reset P/B ☐ S/S Push Button Interlocked with Boiler? ☐ Yes ☐ No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. \_\_\_\_\_ Model \_\_\_\_\_

Condensate Pumps/Hot Water Pumps: Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_

Boiler/Furnace Condition: \_\_\_\_\_

Describe \_\_\_\_\_

Occupant Discomfort (Evaluate): \_\_\_\_\_

HEATING EQUIPMENT

3.2 COOLING EQUIPMENTLOCATION FHL  
BLDG. NO. 230/230ACOMPRESSOR(S)/CHILLER SPLIT-SYSTEM DX

Manufacturer TRANE  
Model No. RAUA-8006-EA  
Size \_\_\_\_\_  
Refrigerant \_\_\_\_\_  
Motor HP (if available) 80HP  
Motor Voltage 208V/3φ  
Motor FLA 264  
Measured Amps \_\_\_\_\_

CONDENSER/CONDENSING UNIT

Water Cooled \_\_\_\_\_  
Air Cooled \_\_\_\_\_  
Evaporative \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Size \_\_\_\_\_  
Type of Fan 2 EA WIND  
Fan Motor HP 7.5  
Fan Motor Voltage 208V/3φ  
Fan Motor FLA 25.4  
Measured Amps \_\_\_\_\_

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity, Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

COOLING TOWER

Gravity \_\_\_\_\_  
Mech. Draft \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Type of Fan \_\_\_\_\_  
Fan RPM \_\_\_\_\_  
Fan Motor HP \_\_\_\_\_  
Fan Motor Voltage \_\_\_\_\_  
Fan Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

CHILLED WATER PUMPS (If more than one, how many operate during normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

REMARKS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_COOLING EQUIPMENT

### 3.3 AIR HANDLING EQUIPMENT

LOCATION FHL  
BLDG. NO. 230/230A

#### FANS

	<u>230</u>	<u>230A</u>		
Type	<u>DUAL DUCT AHU</u>	<u>ROOFTOP PKGD. UNIT</u>		
Unit/Zone	<u># BLDG 230</u>	<u># BLDG 230A</u>	<u>#</u>	<u>#</u>
Manufacturer	<u>TRANE CLIMATE CHANGER</u>	<u>AIR FAN</u>		
Model No.	<u>50</u>	<u>LPS 18D</u>		
Type				
RPM of Fan				
Motor HP	<u>2.5 HP S.A.</u>			
Motor Volts				
Motor FLA				
Measured Amps				
CFM (from Plans)				
Notes				

#### COILS

Indicate capacities where found:

##### COOLING

DX ☒ \_\_\_\_\_  
H<sub>2</sub>O \_\_\_\_\_  
OTHER \_\_\_\_\_

##### HEATING

GAS \_\_\_\_\_  
H<sub>2</sub>O ☒ \_\_\_\_\_  
ELEC \_\_\_\_\_  
OTHER \_\_\_\_\_

##### HUMIDIFICATION

ELEC \_\_\_\_\_  
STEAM \_\_\_\_\_  
H<sub>2</sub>O \_\_\_\_\_  
OTHER \_\_\_\_\_

##### AUX/MISC OTHER

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

#### FILTERS

Type	_____	_____	_____
Condition	_____	_____	_____
Manometer Reading 1/	_____	_____	_____

1/ Record only if manometer is installed on the unit.

AIR HANDLING EQUIPMENT



3.4

DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENTLOCATION FHL  
BLDG. NO. 230/230A

- a. Is System Supported from (check one): ☐ Central Plant ☒ One System per Building  
☐ Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: \_\_\_\_\_ °F \_\_\_\_\_ °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
- d. Is Piping System Insulated and Condition: \_\_\_\_\_
- e. Is Hot Water Circulated? YES
- 1) Condition of circulator GOOD 3) Is aquastat provided? \_\_\_\_\_  
 2) Circulator capacity \_\_\_\_\_ 4) Aquastat temperature setting \_\_\_\_\_

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

a. Location	<u>230 MECH EQUIP RM</u>	<u>208A</u>	
b. Areas Served	<u>208</u>	<u>208A</u>	
c. Manufacturer and Model			
d. Energy (Oil, Gas, Electric, Coal, Etc.)	<u>F.O. #2</u>	<u>ELECTRIC</u>	
e. Type Heaters & Quantities:			
1) Storage	<u>HEAT EXCHANGER</u>		
2) Instantaneous			
3) Semi-Instantaneous			
f. Heater Size and Storage Capacity	<u>1,075 GALS</u>	<u>15 GALS</u>	
g. Heating Capacity		<u>3 kW</u>	
h. Type Controls (Air, Steam, Electric)			
i. When Installed & Condition			
j. Heater Temperature Setting ( <u>MENS</u> )	<u>129°F</u>	<u>130°F</u>	
k. Average Water Maintained Temperature			
l. Temperature Differential (j) - (k)			
m. Is Hot Water Supply Adequate:			
n. Insulation Thickness			
o. Insulation Material			

DOMESTIC HOT WATER SYSTEM/EQUIPMENT

3.4



# 2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FH SURVEYED BY BH / RLB DATE 05 92  
 BUILDING NUMBER 238 FUNCTION/USE TEXCOM  
 INFORMATION SOURCE (DWG. NO./PERSON) SURVEY / AS-BUILT DWGS

## GENERAL BUILDING DATA

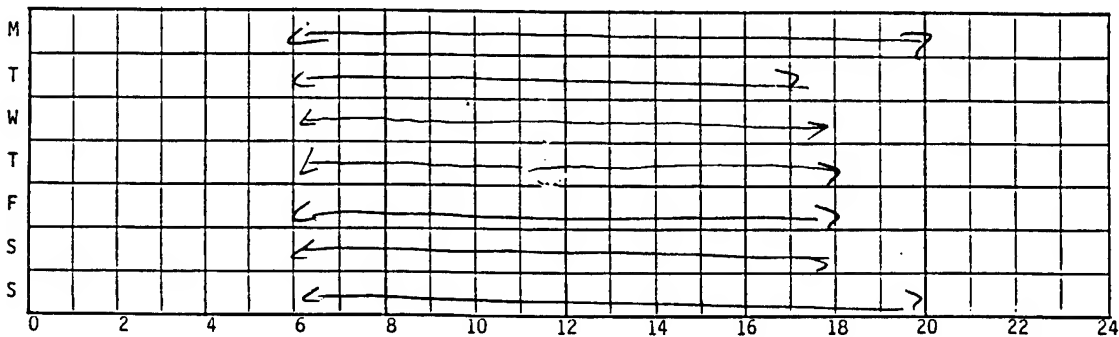
BUILDING AGE: NEW YEARS

DUPLICATE BUILDING NOS: \_\_\_\_\_  
 TOTAL: \_\_\_\_\_

SIMILAR BUILDING NOS: \_\_\_\_\_  
 TOTAL: \_\_\_\_\_

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) ☐ NO. OF OCCUPANTS 20

Indicate (number and) duration of occupants each day



MISCELLANEOUS EQUIPMENT: \_\_\_\_\_

ADDITIONAL COMMENTS, CRITICAL LOADS: \_\_\_\_\_

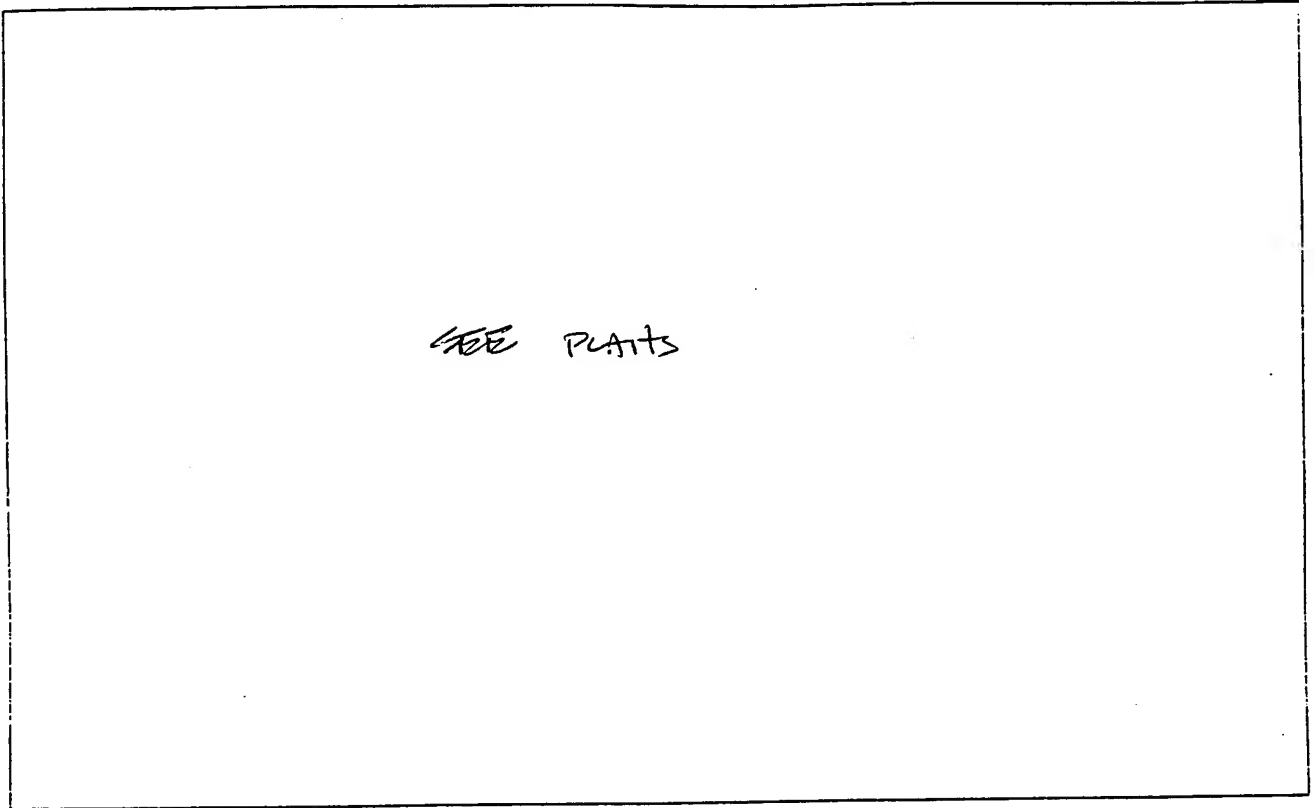
CRAWL SPACE: VENTILATED ☒ EXHAUSTED ☐

ATTIC: VENTILATED ☐ EXHAUSTED ☐

LOCATION FA  
BLDG. NO. 223

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



BUILDING FLOOR PLAN AND  
ELEVATION SKETCHES

[illegible]

	TOTAL AREA	U-VALUE
1		
2		
3		
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99		
100		

**LEGEND:**

- | *GLAZING:          | **FRAME:                | ***SHADING:      | ***VISIBILITY:   | WINDOW TYPES:   |
|--------------------|-------------------------|------------------|------------------|-----------------|
| 1 - ORDINARY       | W - WOOD                | A - SOLAR FILM   | E - AWNING       | 1 - DOUBLE HUNG |
| 2 - 1" PLATE       | M - METAL               | B - VEN BLIND    | F - SOLAR SCREEN | 2 - SINGLE HUNG |
| 3 - HEAT ABSORBING | T - METAL/THERMAL BREAK | C - STORM WINDOW | G - OVERHANG     | 3 - SLIDING     |
| 4 - TINTED         |                         | D - DRAPES       | OTHER - SPECIFY  | 4 - CASEMENT    |
|                    |                         |                  |                  | 5 - LOUVERED    |
|                    |                         |                  |                  | 6 - FIXED GLASS |

2.4 BUILDING ENVELOPE

LOCATION FH

BLDG. NO. 238

CONSTRUCTION

WALL

COLOR: D ☐

M ☐

L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.17
CMU	8"	1.11
12-11		11
GYP BD	5/8"	0.56
INSIDE FILM		0.68
TOTAL		13.5

U-FACTOR

0.073

AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR

AREA

BUILDING SKIRTING MATERIAL

ROOF (INCL. CLG.)

TYPE: F ☐

P ☐

COLOR: D ☐

M ☐

L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.61
Rigid ins.	3"	11.6
BS UP 2"		0.33
INSIDE FILM		
TOTAL		12.5

U-FACTOR

AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR

AREA

BUILDING ENVELOPE

2.4

3.1 HEATING EQUIPMENT

LOCATION FH  
BLDG. NO. 238

Heat Source:

☐ Furnace ☐ Steam Boiler ☒ Hot Water Boiler ☐ Heat Pump ☐ Supplied Steam or Hot Water (External Boiler Plant) ☐ Other \_\_\_\_\_

Capacity: 204 MBtu/Hr or \_\_\_\_\_ Boiler HP or \_\_\_\_\_ Lbs/Hr Steam or \_\_\_\_\_ GPM Hot Water

Manufacturer: Wan McLane Model No.: RG-5-P1

Boiler/Furnace Control: ☐ Manual ☐ Time Clock ☒ Demand ☐ EMCS ☐ O<sub>2</sub> Trim

Operating Temperature: \_\_\_\_\_ °F Operating Pressure: \_\_\_\_\_ PSI

Fuel: ☐ Nat. Gas Only ☐ Nat. Gas/ \_\_\_\_\_ Draft: ☐ Forced  
☒ Other (Specify) Propane ☒ Induced

Burner: Mfg. \_\_\_\_\_ Model No. \_\_\_\_\_ Metering Equipment: ☐ Yes ☐ No

Operating Schedule: Weekdays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day  
Weekdays & Holidays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day  
DEMAND Operating Season: From \_\_\_\_\_ Mon/Day, to \_\_\_\_\_ Mon/Day

Flue Gas Temperature: \_\_\_\_\_ °F Receiver Tank Conditions: \_\_\_\_\_ PSIG \_\_\_\_\_ °F

If supplied Steam or Hot Water: Steam Pressure \_\_\_\_\_ PSI Hot Water Supply Temp. \_\_\_\_\_ °F Hot Water Return Temp. \_\_\_\_\_ °F

Insulation: (1) Boiler (2) Other (Specify) \_\_\_\_\_  
Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup> Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>  
None ☒ Temp. \_\_\_\_\_ °F None ☐ Temp. \_\_\_\_\_ °F

Pump: No. of Pumps 1 V/PH/FLA \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Mfg. MARATHON Model TA45TPR 7074AD HP 1 RPM 1740  
HW Pump Starter: ☐ HOA ☐ Reset P/B ☐ S/S Push Button Interlocked with Boiler? ☐ Yes ☐ No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. \_\_\_\_\_ Model \_\_\_\_\_

Condensate Pumps/Hot Water Pumps: Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_

Boiler/Furnace Condition: \_\_\_\_\_

Describe \_\_\_\_\_

Occupant Discomfort (Evaluate): \_\_\_\_\_

HEATING EQUIPMENT

3.2 COOLING EQUIPMENT

COMPRESSOR(S)/CHILLER

Manufacturer BALCO  
Model No. PN-75-1  
Size \_\_\_\_\_  
Refrigerant R-12  
Motor HP (if available) \_\_\_\_\_  
Motor Voltage 230  
Motor FLA 5.4  
Measured Amps \_\_\_\_\_

CONDENSER/CONDENSING UNIT

Water Cooled \_\_\_\_\_  
Air Cooled \_\_\_\_\_  
Evaporative \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Size NA  
Type of Fan \_\_\_\_\_  
Fan Motor HP \_\_\_\_\_  
Fan Motor Voltage \_\_\_\_\_  
Fan Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

COOLING TOWER

Gravity \_\_\_\_\_  
Mech. Draft \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Type of Fan NA  
Fan RPM \_\_\_\_\_  
Fan Motor HP \_\_\_\_\_  
Fan Motor Voltage \_\_\_\_\_  
Fan Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

CHILLED WATER PUMPS (If more than one, how many  
operative during normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity Gals. \_\_\_\_\_  
Head, Ft. NA  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity, Gals. \_\_\_\_\_  
Head, Ft. NA  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

REMARKS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



### 3.3 AIR HANDLING EQUIPMENT

LOCATION FHL  
BLDG. NO. 238

#### FANS

Type	<u>PACKAGED VAV</u>		
Unit/Zone	<u># ROOF</u>	<u>#</u>	<u>#</u>
Manufacturer	<u>MCCRAY</u>		
Model No.	<u>RS030BT</u>		
Type	<u>ROOF</u>		
RPM of Fan			
Motor HP	<u>20 SUPPLY / 7.5 RETURN</u>		
Motor Volts	<u>460/3Ø</u>	<u>460/3Ø</u>	
Motor FLA	<u>27</u>	<u>11</u>	
Measured Amps	<u>110 (Ave)</u>		
CFM (from Plans)			
Notes			

#### COILS

Indicate capacities where found:

COOLING		HUMIDIFICATION	
DX	<u>✓</u>	ELEC	
H <sub>2</sub> O		STEAM	
OTHER		H <sub>2</sub> O	
HEATING		OTHER	
GAS		AUX/MISC OTHER	<u>NA</u>
H <sub>2</sub> O	<u>✓</u>		
ELEC			
OTHER			

#### FILTERS

Type	<u>NA</u>	<u>NA</u>	<u>NA</u>
Condition			
Manometer Reading <u>1/</u>			

1/ Record only if manometer is installed on the unit.

AIR HANDLING EQUIPMENT

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

- a. Is System Supported from (check one): ☐ Central Plant ☒ One System per Building  
☐ Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: \_\_\_\_\_ °F \_\_\_\_\_ °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:  
1" 25 FT
- d. Is Piping System Insulated and Condition: YES
- e. Is Hot Water Circulated? YES
- 1) Condition of circulator GOOD 3) Is aquastat provided? NO
- 2) Circulator capacity B14 series 100 4) Aquastat temperature setting \_\_\_\_\_

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- a. Location Mech Rm.
- b. Areas Served All
- c. Manufacturer and Model PUL MOD 27P 125A-PG
- d. Energy (Oil, Gas, Electric, Coal, Etc.) ELECTRIC
- e. Type Heaters & Quantities:
- 1) Storage \_\_\_\_\_
- 2) Instantaneous \_\_\_\_\_
- 3) Semi-Instantaneous \_\_\_\_\_
- f. Heater Size and Storage Capacity 190 MBH
- g. Heating Capacity 125 MBH
- h. Type Controls (Air, Steam, Electric) ELEC
- i. When Installed & Condition NEW
- j. Heater Temperature Setting 1
- k. Average Water Maintained Temperature \_\_\_\_\_
- l. Temperature Differential (j) - (k) 1
- m. Is Hot Water Supply Adequate: 1
- n. Insulation Thickness \_\_\_\_\_ Type \_\_\_\_\_
- o. Insulation Material \_\_\_\_\_

LOCATION PH  
BLDG. NO. 238

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

CONTROL SYSTEM:

CONTROLLERS: ☒ ELECTRIC ☐ PNEUMATIC  
☐ ELECTRONIC

OPERATION: ☐ MANUAL ☒ TIME CLOCK  
☐ CONTINUOUS ☐ EMCS  
☐ DEMAND

MFG Harvard MODEL \_\_\_\_\_ LOCATION \_\_\_\_\_

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

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CONTROL/MISCELLANEOUS PROCESS/SKETCHES

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1 = Corridors  
2 = Kitchens  
3 = Dining  
4 = Offices-general  
5 = Offices-bookkeeping (ledgers only)  
6 = Offices-drafting  
7 = Laundry  
8 = Toilets  
9 = Sleeping quarters  
10 = Supply rooms  
11 = Repair shops  
12 = Storage room  
13 = Retail store (PX, commissary)  
Other (describe on audit form)  
E = Exterior

LIGHTING LEGEND:

[illegible]

## 2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHL SURVEYED BY BIH/RJB DATE OCT 92  
BUILDING NUMBER 240 FUNCTION/USE OFFICE  
INFORMATION SOURCE (DWG. NO./PERSON) VISUAL INSPECTION

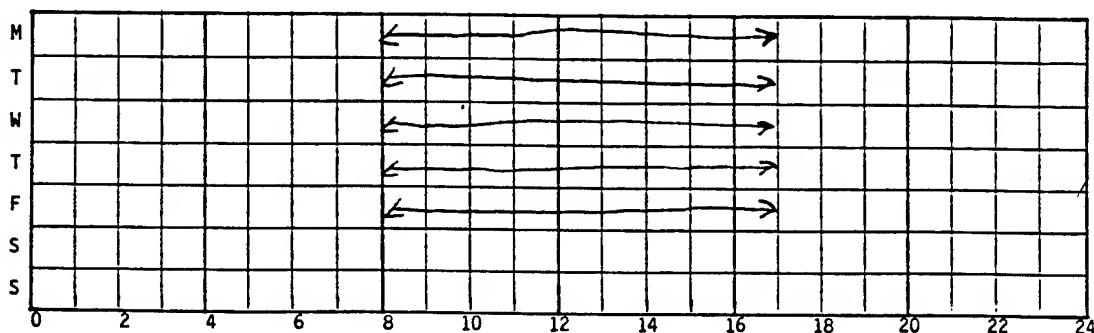
### GENERAL BUILDING DATA

BUILDING AGE: 2-3 YEARS

DUPLICATE BUILDING NOS: 235, 236, 237, 243, 244, 286, 288, 246, 247  
TOTAL: \_\_\_\_\_

SIMILAR BUILDING NOS: \_\_\_\_\_  
TOTAL: \_\_\_\_\_

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) ☐ NO. OF OCCUPANTS 12  
Indicate (number and) duration of occupants each day



MISCELLANEOUS EQUIPMENT: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

ADDITIONAL COMMENTS, CRITICAL LOADS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

CRAWL SPACE: VENTILATED ☐ EXHAUSTED ☐

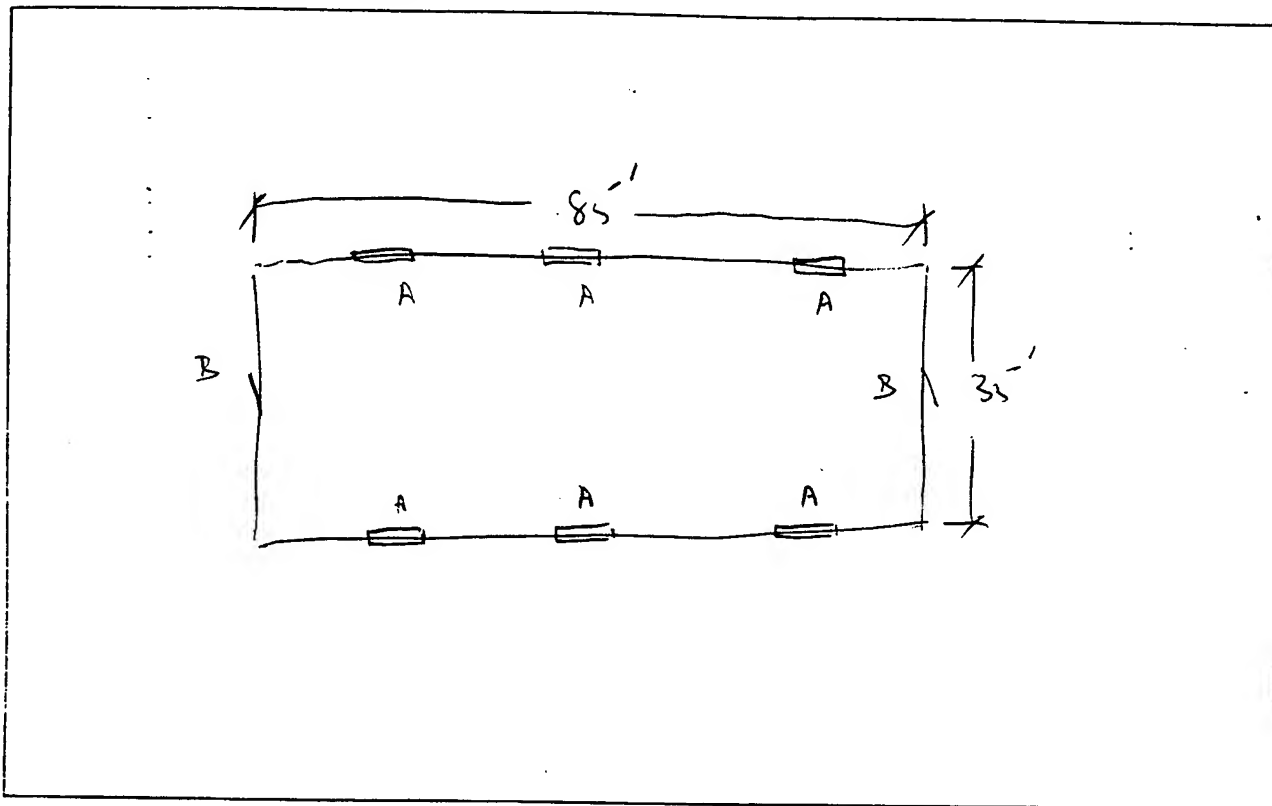
ATTIC: VENTILATED ☐ EXHAUSTED ☐

ARCHITECTURE--MISCELLANEOUS

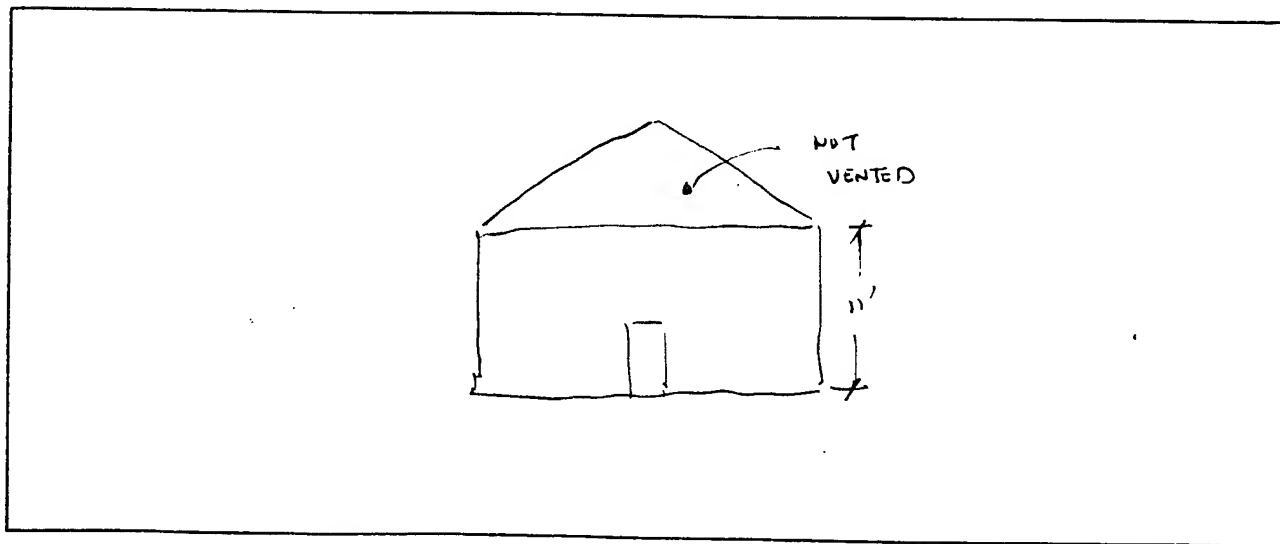
2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

LOCATION FHL  
BLDG. NO. 240

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



BUILDING FLOOR PLAN AND  
ELEVATION SKETCHES

### 2.3

LOCATION

BLDG. NO.

[illegible]

**LEGEND:**

**\*GLAZING:**

1 - ORDINARY  
2 - 1/4" PLATE  
3 - HEAT ABSORBING  
4 - TINTED

**\*\*FRAME:**

W - WOOD  
M - METAL  
T - METAL/THERMAL BREAK

**\*\*\*SHADING:**

A - SOLAR FILM  
B - VEN BLIND  
C - STORM WINDOW  
D - DRAPES

**\*\*\*VISIBILITY:**

E - AWNING  
F - SOLAR SCREEN  
G - OVERHANG  
OTHER - SPECIFY

**WINDOW TYPES:**

1 - DOUBLE HUNG	4 - CASEMENT
2 - SINGLE HUNG	5 - LOUVERED
3 - SLIDING	6 - FIXED GLASS

## ARCHITECTURAL WINDOWS & DOORS

## 2.4 BUILDING ENVELOPE

LOCATION FHLBLDG. NO. 240

## CONSTRUCTION

WALL

COLOR: D ☐M ☒L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.25
1/2-IN PLANK		0.62
R-11 INSULATION		11.00
GYP BOARD		0.56
INSIDE FILM		0.68
TOTAL		13.11

U-FACTOR

0.08

AREA

FLOOR

SOG

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR

AREA

BUILDING SKIRTING MATERIAL

ROOF (INCL. CLG.)

TYPE: F ☐P ☐COLOR: D ☐M ☐L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.25
METAL ROOF		0.61
R-19 INSULATION		19.00
GYP BOARD		0.56
		0.68
INSIDE FILM		21.1
TOTAL		

U-FACTOR

0.05

AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR

AREA

BUILDING ENVELOPE

2.4



3.1 HEATING EQUIPMENT

LOCATION FHL  
BLDG. NO. 240

PACKAGED PROPANE HEATING/DRAWING UNIT (2 EA.)

Heat Source:

☐ Furnace ☐ Steam Boiler ☐ Hot Water Boiler ☐ Heat Pump ☐ Supplied Steam or Hot Water (External Boiler Plant) ☐ Other \_\_\_\_\_

Capacity: 61.6 M Btu/Hr or \_\_\_\_\_ Boiler HP or \_\_\_\_\_ Lbs/Hr Steam or \_\_\_\_\_ GPM Hot Water

Manufacturer: CARRIER Model No.: \_\_\_\_\_

Boiler/Furnace Control: ☐ Manual ☒ Time Clock ☐ Demand ☐ EMCS ☐ O<sub>2</sub> Trim

Operating Temperature: \_\_\_\_\_ °F Operating Pressure: \_\_\_\_\_ PSI

Fuel: ☐ Nat. Gas Only ☐ Nat. Gas/ \_\_\_\_\_ Draft: ☐ Forced ☒ Other (Specify) PROPANE ☐ Induced

Burner: Mfg. \_\_\_\_\_ Model No. \_\_\_\_\_ Metering Equipment: ☐ Yes ☐ No

Operating Schedule: Weekdays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

Weekdays & Holidays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

Operating Season: From \_\_\_\_\_ Mon/Day, to \_\_\_\_\_ Mon/Day

Flue Gas Temperature: \_\_\_\_\_ °F Receiver Tank Conditions: \_\_\_\_\_ PSIG \_\_\_\_\_ °F

If supplied Steam or Hot Water: Steam Pressure \_\_\_\_\_ PSI Hot Water Supply Temp. \_\_\_\_\_ °F Hot Water Return Temp. \_\_\_\_\_ °F

Insulation: (1) Boiler (2) Other (Specify) \_\_\_\_\_  
Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup> Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>  
None ☐ Temp. \_\_\_\_\_ °F None ☐ Temp. \_\_\_\_\_ °F

Pump: No. of Pumps \_\_\_\_\_ V/PH/FLA \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_ RPM \_\_\_\_\_

HW Pump Starter: ☐ HOA ☐ Reset P/B ☐ S/S Push Button Interlocked with Boiler? ☐ Yes ☐ No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. \_\_\_\_\_ Model \_\_\_\_\_

Condensate Pumps/Hot Water Pumps: Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_

Boiler/Furnace Condition: \_\_\_\_\_

Describe \_\_\_\_\_

Occupant Discomfort (Evaluate): \_\_\_\_\_

HEATING EQUIPMENT

3.2 COOLING EQUIPMENTLOCATION FHL  
BLDG. NO. 240PACAGED HEAT/COOLING UNIT - PAD MOUNTED (2 EACH)COMPRESSOR(S)/CHILLER

Manufacturer CARRIER WEATHERMAKER  
Model No. 48LH006580  
Size 4 TONS  
Refrigerant \_\_\_\_\_  
Motor HP (if available) \_\_\_\_\_  
Motor Voltage 208V/3P  
Motor FLA 17  
Measured Amps \_\_\_\_\_

CONDENSER/CONDENSING UNIT

	<u>COND</u>	<u>EVAP</u>
Water Cooled		
Air Cooled	<u>✓</u>	
Evaporative		
Manufacturer		
Model No.		
Size		
Type of Fan		
Fan Motor HP		
Fan Motor Voltage	<u>208V/1P</u>	<u>208V/1P</u>
Fan Motor FLA	<u>2</u>	<u>4</u>
Measured Amps		

COOLING TOWER

Gravity \_\_\_\_\_  
Mech. Draft \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Type of Fan \_\_\_\_\_  
Fan RPM \_\_\_\_\_  
Fan Motor HP \_\_\_\_\_  
Fan Motor Voltage \_\_\_\_\_  
Fan Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

CHILLED WATER PUMPS (If more than one, how many  
operative during normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity, Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

REMARKS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

COOLING EQUIPMENT

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT - NONE

LOCATION FHL  
BLDG. NO. 240

- a. Is System Supported from (check one): ☐ Central Plant ☐ One System per Building  
☐ Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: \_\_\_\_\_ °F \_\_\_\_\_ °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- d. Is Piping System Insulated and Condition: \_\_\_\_\_
- e. Is Hot Water Circulated? \_\_\_\_\_  
1) Condition of circulator \_\_\_\_\_ 3) Is aquastat provided? \_\_\_\_\_  
2) Circulator capacity \_\_\_\_\_ 4) Aquastat temperature setting \_\_\_\_\_

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- a. Location \_\_\_\_\_
- b. Areas Served \_\_\_\_\_
- c. Manufacturer and Model \_\_\_\_\_
- d. Energy (Oil, Gas, Electric, Coal, Etc.) \_\_\_\_\_
- e. Type Heaters & Quantities: NA  
1) Storage \_\_\_\_\_  
2) Instantaneous \_\_\_\_\_  
3) Semi-Instantaneous \_\_\_\_\_
- f. Heater Size and Storage Capacity \_\_\_\_\_
- g. Heating Capacity \_\_\_\_\_
- h. Type Controls (Air, Steam, Electric) \_\_\_\_\_
- i. When Installed & Condition \_\_\_\_\_
- j. Heater Temperature Setting \_\_\_\_\_
- k. Average Water Maintained Temperature \_\_\_\_\_
- l. Temperature Differential (j) - (k) \_\_\_\_\_
- m. Is Hot Water Supply Adequate: \_\_\_\_\_
- n. Insulation Thickness \_\_\_\_\_
- o. Insulation Material \_\_\_\_\_ Type \_\_\_\_\_

DOMESTIC HOT WATER SYSTEM/EQUIPMENT

LOCATION FAL  
BLDG. NO. 240

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

CONTROL SYSTEM:

CONTROLLERS:



ELECTRIC



PNEUMATIC



ELECTRONIC

OPERATION:



MANUAL



CONTINUOUS



DEMAND



TIME CLOCK



EMCS

MFG \_\_\_\_\_ MODEL \_\_\_\_\_ LOCATION \_\_\_\_\_

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

TWO THERMOSTATS - 1 HEATING, 1 COOLING - NON PROGRAMMABLE/NON SETBACK  
TIME CLOCK { ON 0630 } MON - FRI  
{ OFF 1800 }  
6 HR MAX OVERRIDE TIMERS ADJUNCT TO T-STATS

CONTROL/MISCELLANEOUS PROCESS/SKETCHES

240

TOTAL BUILDING

LIGHTING LEGEND:

**Fixture Types:**

Recessed = R

**Lamp Types:**

**candescent = I**

**Window Code:**

There are windows,

**Tasks Code:**

Offices-drafting 12 = Storage room

2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHL SURVEYED BY RUB/BIH DATE 01 92  
BUILDING NUMBER 241 FUNCTION/USE GM FACILITY  
INFORMATION SOURCE (DWG. NO./PERSON) SURVEY

GENERAL BUILDING DATA

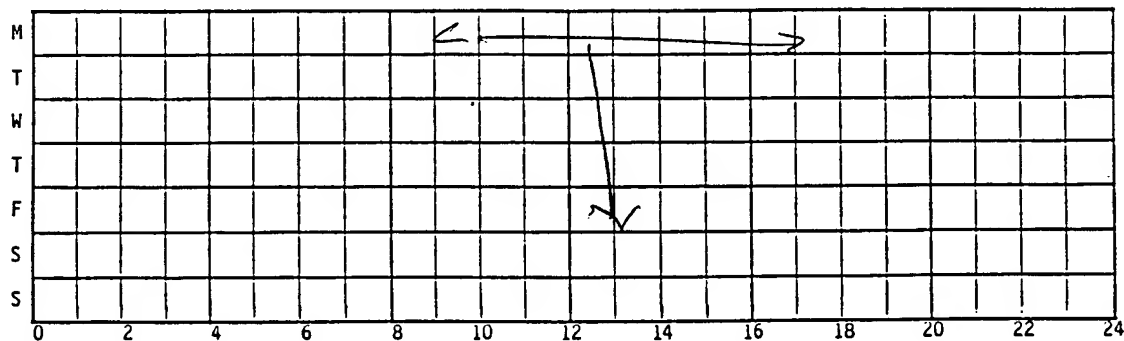
BUILDING AGE: WED YEARS

DUPLICATE BUILDING NOS: \_\_\_\_\_  
TOTAL: \_\_\_\_\_

SIMILAR BUILDING NOS: \_\_\_\_\_  
TOTAL: \_\_\_\_\_

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) ☐ NO. OF OCCUPANTS 20

Indicate (number and) duration of occupants each day



MISCELLANEOUS EQUIPMENT: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

ADDITIONAL COMMENTS, CRITICAL LOADS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

CRAWL SPACE: VENTILATED ☒ EXHAUSTED ☐

ATTIC: VENTILATED ☐ EXHAUSTED ☐

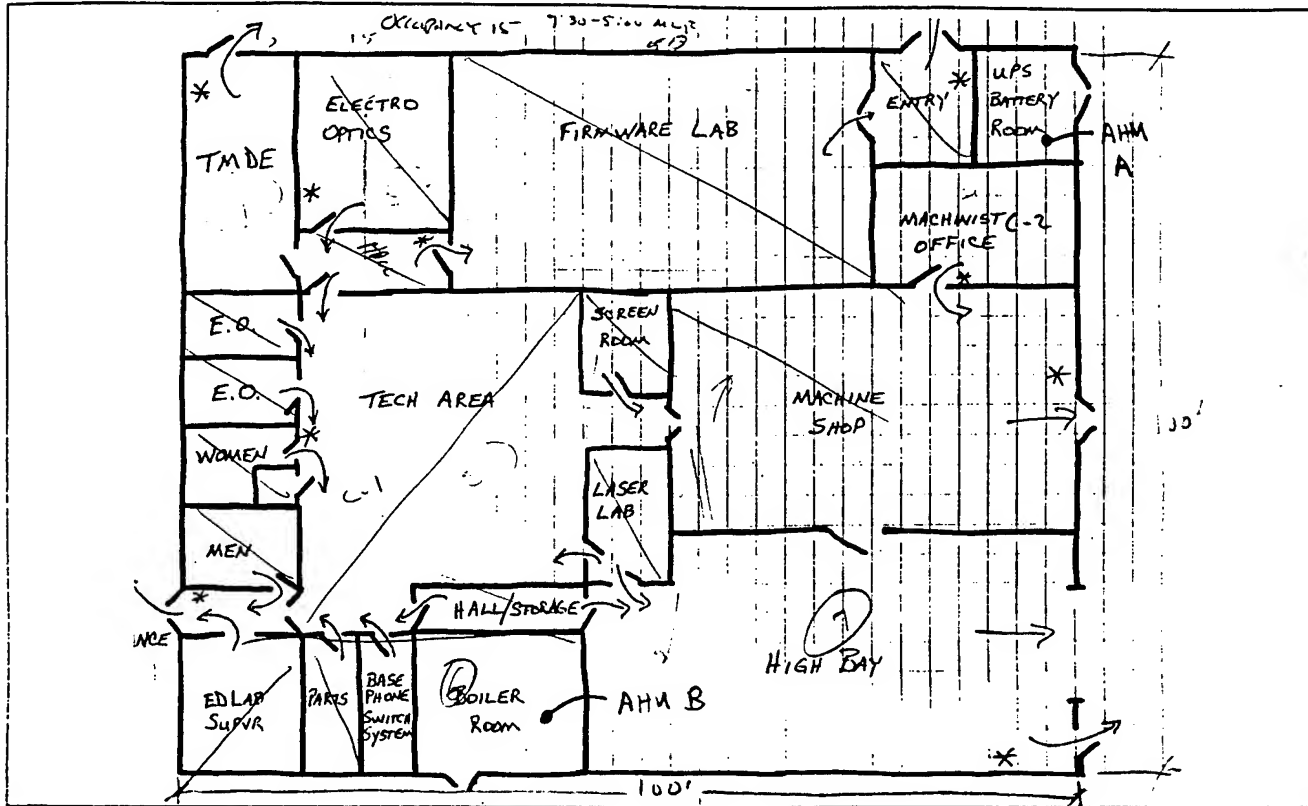
LOCATION

BLDG. NO.

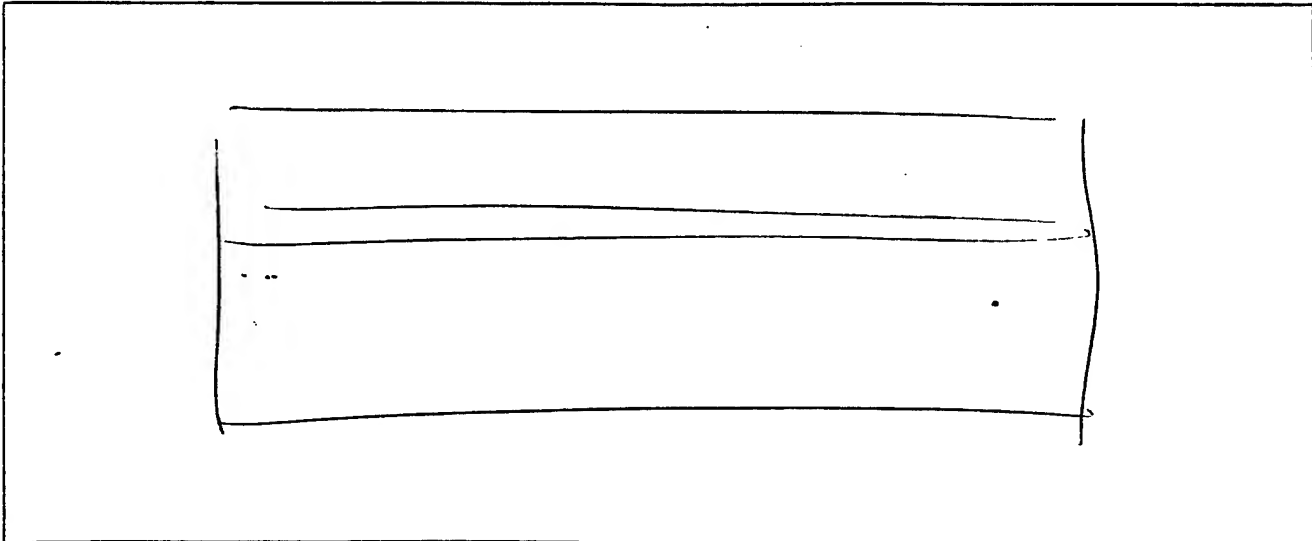
FH  
241

## 2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)

BUILDING FLOOR PLAN AND  
ELEVATION SKETCHES

[illegible]

TOTAL AREA	U-VALUE
------------	---------

**LEGEND:**

- | *GLAZING:          | **FRAME:                | ***SHADING:      | ****VISIBILITY:  | *****WINDOW TYPES: |
|--------------------|-------------------------|------------------|------------------|--------------------|
| 1 - ORDINARY       | W - WOOD                | A - SOLAR FILM   | E - ANNING       | 1 - DOUBLE HUNG    |
| 2 - 1" PLATE       | M - METAL               | B - VEN BLIND    | F - SOLAR SCREEN | 2 - SINGLE HUNG    |
| 3 - HEAT ABSORBING | T - METAL/THERMAL BREAK | C - STORM WINDOW | G - OVERHANG     | 3 - SLIDING        |
| 4 - TINTED         |                         | D - STORM        | OTHER - SPECIFY  | 4 - CASEMENT       |
|                    |                         |                  |                  | 5 - LOUVERED       |
|                    |                         |                  |                  | 6 - FIXED GLASS    |



# 2.4 BUILDING ENVELOPE

LOCATION FH2  
BLDG. NO. 241

## CONSTRUCTION

WALL  COLOR: D ☐ M ☐ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.25
MEET COVER		0.61
2" BATT		11
AIR SPACE		0.68
AIR BOARD		0.32
INSIDE FILM		0.68
TOTAL		13.54

U-FACTOR 0.07 AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

BUILDING SKIRTING MATERIAL

## ROOF (INCL. CLG.)

TYPE: F ☐ P ☐  
COLOR: D ☐ M ☐ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.25
MEET ROOF		0.61
6" BATT		19
INSIDE FILM		0.68
TOTAL		20.54

U-FACTOR 0.05 AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

BUILDING ENVELOPE

## 3.1 HEATING EQUIPMENT

LOCATION FHL  
BLDG. NO. 241

Heat Source:

☒ Furnace ☐ Steam Boiler ☐ Hot Water Boiler ☐ Heat Pump ☐ Supplied Steam or Hot Water (External Boiler Plant) ☐ Other \_\_\_\_\_Capacity: 400 MBtu/Hr<sup>12</sup> or \_\_\_\_\_ Boiler HP or \_\_\_\_\_ Lbs/Hr Steam or \_\_\_\_\_ GPM Hot WaterManufacturer: Jedlund Model No.: 100Boiler/Furnace Control: ☐ Manual ☐ Time Clock ☒ Demand ☐ EMCS ☐ O<sub>2</sub> Trim

Operating Temperature: \_\_\_\_\_ °F Operating Pressure: \_\_\_\_\_ PSI

Fuel: ☐ Nat. Gas Only ☐ Nat. Gas/ \_\_\_\_\_  
☒ Other (Specify) PROPANEDraft: ☒ Forced  
\_\_\_\_\_ InducedBurner: Mfg. ECONOMITE Model No. 400H33 Metering Equipment: ☐ Yes ☒ No

Operating Schedule: Weekdays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

24 HR Weekdays & Holidays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

Operating Season: From \_\_\_\_\_ Mon/Day, to \_\_\_\_\_ Mon/Day

Flue Gas Temperature: \_\_\_\_\_ °F Receiver Tank Conditions: \_\_\_\_\_ PSIG \_\_\_\_\_ °F

If supplied Steam or Hot Water: Steam Pressure \_\_\_\_\_ PSI Hot Water Supply Temp. \_\_\_\_\_ °F Hot Water Return Temp. \_\_\_\_\_ °F

Insulation: (1) Boiler

Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>  
None ☒ Temp. \_\_\_\_\_ °F

(2) Other (Specify) \_\_\_\_\_

Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>  
None ☐ Temp. \_\_\_\_\_ °F

Pump: No. of Pumps \_\_\_\_\_ V/PH/FLA \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_ RPM \_\_\_\_\_

HW Pump Starter: ☐ HOA ☐ Reset P/B ☐ S/S Push Button Interlocked with Boiler? ☐ Yes ☒ No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. \_\_\_\_\_ Model \_\_\_\_\_

Condensate Pumps/Hot Water Pumps: Mfg. NA Model \_\_\_\_\_ HP \_\_\_\_\_

Boiler/Furnace Condition: \_\_\_\_\_

Describe \_\_\_\_\_

Occupant Discomfort (Evaluate): \_\_\_\_\_

HEATING EQUIPMENT

# 3.2 COOLING EQUIPMENT

LOCATION FHL  
BLDG. NO. 241

## COMPRESSOR(S)/CHILLER

Manufacturer McQUAY  
Model No. ALR20AS  
Size \_\_\_\_\_  
Refrigerant R-22  
Motor HP (if available) 25  
Motor Voltage 460/3φ  
Motor FLA 41  
Measured Amps \_\_\_\_\_

## CONDENSER/CONDENSING UNIT

Water Cooled \_\_\_\_\_  
Air Cooled ✓  
Evaporative \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Size \_\_\_\_\_  
Type of Fan \_\_\_\_\_  
Fan Motor HP 3 e 3/4 HP  
Fan Motor Voltage 460/1φ  
Fan Motor FLA 3 e 2.4  
Measured Amps \_\_\_\_\_

## COOLING TOWER

Gravity \_\_\_\_\_  
Mech. Draft \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Type of Fan \_\_\_\_\_  
Fan RPM \_\_\_\_\_  
Fan Motor HP \_\_\_\_\_  
Fan Motor Voltage \_\_\_\_\_  
Fan Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

## CHILLED WATER PUMPS (If more than one, how many operative during normal operation: \_\_\_\_\_)

Manufacturer B+G  
Model No. 60-60-2AMZ  
Capacity Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP 1 HP  
Motor Voltage 460V/3φ  
Motor FLA 2.2  
Measured Amps 2.2/2.4/2.5

## CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity, Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

REMARKS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

COOLING EQUIPMENT

## 3.3 AIR HANDLING EQUIPMENT

LOCATION FAL  
BLDG. NO. 241

## FANS

Type			<u>CRAI</u>
Unit/Zone	<u># AHU-B</u>	<u>#</u>	<u># AHU-A</u>
Manufacturer	<u>AIR DYNAMICS</u>		<u>DATA AIR</u>
Model No.	<u>AH-65</u>		<u>DTA-0532-01</u>
Type			
RPM of Fan	<u>~ 1700 SUPPLY</u>		
Motor HP	<u>2 HP RETURN</u>		
Motor Volts	<u>460/3φ</u>		<u>208/3φ COMPRESSOR</u>
Motor FLA			<u>18</u>
Measured Amps			
CFM (from Plans)	<u>6,545</u>		
Notes	<u>BELTS BROKEN</u>		<u>6 kW ROHEAT</u>

BOHN - COND UNIT \*  
2 KW SEC 1/2 HP EA.  
208V/1φ/3.6 FLA

## COILS

Indicate capacities where found:

## COOLING

DX \_\_\_\_\_  
 H<sub>2</sub>O ✓ \_\_\_\_\_  
 OTHER \_\_\_\_\_

## HEATING

GAS \_\_\_\_\_  
 H<sub>2</sub>O \_\_\_\_\_  
 ELEC \_\_\_\_\_  
 OTHER PROPANE \_\_\_\_\_

## HUMIDIFICATION

ELEC \_\_\_\_\_  
 STEAM \_\_\_\_\_  
 H<sub>2</sub>O \_\_\_\_\_  
 OTHER \_\_\_\_\_

## AUX/MISC OTHER

\_\_\_\_\_

## FILTERS

Type	<u>METAL</u>		
Condition	<u>DIRTY</u>		
Manometer Reading 1/			

1/ Record only if manometer is installed on the unit.

\* DX PIPING REQUIRES INSULATION 3/4" φ.  
 OUTSIDE 36 LF  
 INSIDE 42 LF

AIR HANDLING EQUIPMENT

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

LOCATION FH  
BLDG. NO. 241

- a. Is System Supported from (check one): ☐ Central Plant ☒ One System per Building  
☐ Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: \_\_\_\_\_ °F \_\_\_\_\_ °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- d. Is Piping System Insulated and Condition: \_\_\_\_\_
- e. Is Hot Water Circulated? \_\_\_\_\_  
1) Condition of circulator \_\_\_\_\_ 3) Is aquastat provided? \_\_\_\_\_  
2) Circulator capacity \_\_\_\_\_ 4) Aquastat temperature setting \_\_\_\_\_

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- a. Location \_\_\_\_\_
- b. Areas Served NK \_\_\_\_\_
- c. Manufacturer and Model \_\_\_\_\_
- d. Energy (Oil, Gas, Electric, Coal, Etc.) \_\_\_\_\_
- e. Type Heaters & Quantities:  
1) Storage \_\_\_\_\_  
2) Instantaneous \_\_\_\_\_  
3) Semi-Instantaneous \_\_\_\_\_
- f. Heater Size and Storage Capacity \_\_\_\_\_
- g. Heating Capacity \_\_\_\_\_
- h. Type Controls (Air, Steam, Electric) \_\_\_\_\_
- i. When Installed & Condition \_\_\_\_\_
- j. Heater Temperature Setting \_\_\_\_\_
- k. Average Water Maintained Temperature \_\_\_\_\_
- l. Temperature Differential (j) - (k) \_\_\_\_\_
- m. Is Hot Water Supply Adequate: \_\_\_\_\_
- n. Insulation Thickness \_\_\_\_\_
- o. Insulation Material \_\_\_\_\_ Type \_\_\_\_\_

LOCATION FHL  
BLDG. NO. 241

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

CONTROL SYSTEM:

CONTROLLERS:



ELECTRIC



PNEUMATIC



ELECTRONIC

OPERATION:



MANUAL



CONTINUOUS



DEMAND



TIME CLOCK



EMCS ATTN B

MFG \_\_\_\_\_ MODEL \_\_\_\_\_ LOCATION \_\_\_\_\_

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

SCHEDULE ATTN-B TIME CLOCK

	<u>ON</u>	<u>OFF</u>
M	0500	1730
T	0500	1630
W	0500	1700
Th	0400	1730
F	0530	1700
S	1200	1800
S	1200	1830

CONTROL/MISCELLANEOUS PROCESS/SKETCHES

### 3.6 SPECIAL EQUIPMENT

LOCATION FHL

BLDG. NO. 241

[illegible]

SPECIAL EQUIPMENT

4.2.1 Interior Lighting

241

BLDG.

PH

LOCATION

LIGHTING

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT <sup>2</sup> )	WATTS PER SQ.FT. (W/FT <sup>2</sup> )	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS	FINISH	WINDOW CODE	REMARKS (LIGHTS/SWITCH)
LAB	SPR	F	4/35	4												
LAB	SPR	F	2/35	2												
LAB	SPR	F	4/35	46												
LAB	SPR	F	4/35	6												
LAB	SPR	F	2/35	2												
LAB	SPR	F	1/35	2												
LAB	SPR	F	2/35	1												
LAB	SPR	F	4/35	6												
LAB	SPR	F	4/35	12												
LAB	SPR	F	4/35	7												
LAB	SPR	F	3/35	25												
TOTAL BUILDING LIGHTING ENERGY																

2X

delays  
to 2

LIGHTING LEGEND:

Lamp Types:

Incandescent = I  
Fluorescent = F  
Sodium Vapor = SV  
Mercury Vapor = MV  
Metal Halide = MH  
Other--Describe

Window Code:

If there are windows, indicate:  
Curtains = C  
Shades = S  
No Shading = NS

Tasks Code:

1 = Corridors  
2 = Kitchens  
3 = Dining  
4 = Offices-general  
5 = Offices-bookkeeping (ledgers only)  
6 = Offices-drafting  
7 = Laundry  
8 = Toilets  
9 = Sleeping quarters  
10 = Supply rooms  
11 = Repair shops  
12 = Storage room  
13 = Retail store (PX, commissary)  
Other (describe on audit form)  
E = Exterior

LIGHTING

4.2.1



LOCATION

72

**BLDG.**

112

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT <sup>2</sup> )	WATTS PER SQ. FT. (W/FT <sup>2</sup> )	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS		FINISH		WINDOW CODE	REMARKS (LIGHTS/SWITCH)	
													C E I L I N G	W A L L	C E I L I N G	W A L L			F L O O R
4000	Surf	P	4/55	2															
4141	Surf	P	3/55	27							45								
4200	Surf	P	4/55	4															
TOTAL BUILDING LIGHTING ENERGY																			

### LIGHTING LEGEND:

**Lamp Types:**

Incandescent = I  
Fluorescent = F  
Sodium Vapor = SV  
Mercury Vapor = MV  
Metal Halide = MH  
Other--Describe

**Window Code:**

**If there are windows, indicate:**

Curtains = C  
Shades = S  
No Shading = NS

**Tasks Code:**

1 = Corridors	6 = Offices-drafting	12 = Storage room
2 = Kitchens	7 = Laundry	13 = Retail store
3 = Dining	8 = Toilets	(Pet, commissary)
4 = Offices-general	9 = Sleeping quarters	Other (describe on
5 = Offices-bookkeeping	10 = Supply rooms	(audit form)
(ledgers only)	11 = Repair shops	£ = Exterior

### **Fixture Types:**

Recessed = R  
Suspended = S  
Ventilated = V  
Pole Mounted = PH  
Other--Describe

## 2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FH SURVEYED BY P. B. / B. H. DATE 07/92  
 BUILDING NUMBER 252 FUNCTION/USE VEHICLE MAINT SHOP  
 INFORMATION SOURCE (DWG. NO./PERSON) SURVEY / AS-BUILT DWGS

### GENERAL BUILDING DATA

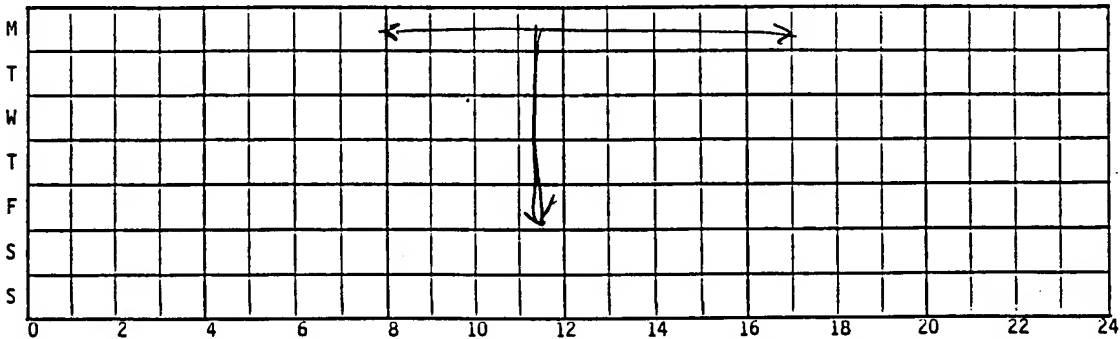
BUILDING AGE: 11/20 YEARS

DUPLICATE BUILDING NOS: \_\_\_\_\_  
 TOTAL: \_\_\_\_\_

SIMILAR BUILDING NOS: \_\_\_\_\_  
 TOTAL: \_\_\_\_\_

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) ☐ NO. OF OCCUPANTS 6

Indicate (number and) duration of occupants each day



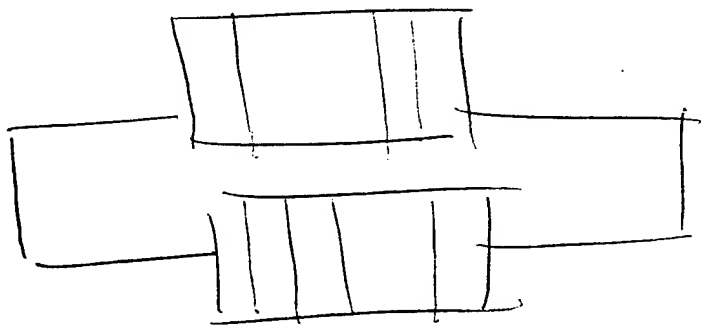
MISCELLANEOUS EQUIPMENT: \_\_\_\_\_

ADDITIONAL COMMENTS, CRITICAL LOADS: \_\_\_\_\_

CRAWL SPACE: VENTILATED ☐ EXHAUSTED ☒

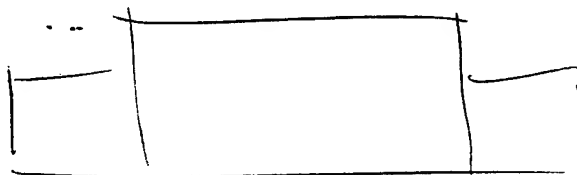
ATTIC: VENTILATED ☐ EXHAUSTED ☐

FLOOR PLAN (Show dimensions and zones)



SEE DRAWINGS

SOUTH ELEVATION (Show floor to ceiling elevations)



SEE DRAWINGS

Ph  
252

[illegible]

U-VALUE

TOTAL AREA

**LEGEND:**

\*\*\*SHADING:

A - SOLAR FILM  
B - VEN BLIND  
C - STORM WINDO  
D - DRAPES

\*\*\*FRAME:

W - WOOD  
M - METAL  
T - METAL/THERMAL

**\*CLAZING.**

1 - ORDINARY  
2 - 1" PLATE  
3 - HEAT ABSORBING  
4 - TINTED

**WINDOW TYPES:**

1 - DOUBLE HUNG	4 - CASEMENT
2 - SINGLE HUNG	5 - LOUVERED
3 - SLIDING	6 - FIXED GLASS

2.4 BUILDING ENVELOPE

LOCATION FH  
BLDG. NO. 252

CONSTRUCTION

WALL  COLOR: D ☐ M ☐ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

ROOF (INCL. CLG.)

TYPE: F ☐ P ☐  
COLOR: D ☐ M ☐ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

BUILDING SKIRTING MATERIAL

## 3.1 HEATING EQUIPMENT

LOCATION FH  
BLDG. NO. 252

Heat Source:

☐ Furnace ☐ Steam Boiler ☒ Hot Water Boiler ☐ Heat Pump ☐ Supplied Steam or Hot Water (External Boiler Plant) ☐ Other \_\_\_\_\_Capacity: 650 MBtu/Hr or \_\_\_\_\_ Boiler HP or \_\_\_\_\_ Lbs/Hr Steam or \_\_\_\_\_ GPM Hot WaterManufacturer: Kewanee Model No.: M-63-KOBoiler/Furnace Control: ☐ Manual ☐ Time Clock ☒ Demand ☐ EMCS ☐ O<sub>2</sub> Trim

Operating Temperature: \_\_\_\_\_ °F Operating Pressure: \_\_\_\_\_ PSI

Fuel: ☐ Nat. Gas Only ☐ Nat. Gas/ \_\_\_\_\_ Draft: ☒ Forced  
☒ Other (Specify) OIL \_\_\_\_\_ InducedBurner: Mfg. \_\_\_\_\_ Model No. \_\_\_\_\_ Metering Equipment: ☐ Yes ☐ No

Operating Schedule: Weekdays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

Demand Weekdays & Holidays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

Operating Season: From \_\_\_\_\_ Mon/Day, to \_\_\_\_\_ Mon/Day

Flue Gas Temperature: \_\_\_\_\_ °F Receiver Tank Conditions: \_\_\_\_\_ PSIG \_\_\_\_\_ °F

If supplied Steam or Hot Water: Steam Pressure \_\_\_\_\_ PSI Hot Water Supply Temp. \_\_\_\_\_ °F Hot Water Return Temp. \_\_\_\_\_ °F

Insulation: (1) Boiler (2) Other (Specify) \_\_\_\_\_  
Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup> Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>  
None ☒ Temp. \_\_\_\_\_ °F None ☐ Temp. \_\_\_\_\_ °FPump: No. of Pumps 1 V/PH/FLA 480, 3, 1  
Mfg. BAG Model 145-DZ HP 3/4 RPM 1750  
HW Pump Starter: ☐ HOA ☐ Reset P/B ☐ S/S Push Button Interlocked with Boiler? ☐ Yes ☐ No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. \_\_\_\_\_ Model \_\_\_\_\_

Condensate Pumps/Hot Water Pumps: Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_

Boiler/Furnace Condition: \_\_\_\_\_

Describe NA \_\_\_\_\_

Occupant Discomfort (Evaluate): \_\_\_\_\_

HEATING EQUIPMENT

3.1

2 COOLING EQUIPMENT

COMPRESSOR(S)/CHILLER

Manufacturer \_\_\_\_\_  
 Model No. \_\_\_\_\_  
 Size \_\_\_\_\_  
 Refrigerant \_\_\_\_\_  
 Motor HP (if available) \_\_\_\_\_  
 Motor Voltage \_\_\_\_\_  
 Motor FLA \_\_\_\_\_  
 Measured Amps \_\_\_\_\_

CONDENSER/CONDENSING UNIT

Water Cooled \_\_\_\_\_  
 Air Cooled \_\_\_\_\_  
 Evaporative \_\_\_\_\_  
 Manufacturer \_\_\_\_\_  
 Model No. \_\_\_\_\_  
 Size \_\_\_\_\_  
 Type of Fan \_\_\_\_\_  
 Fan Motor HP \_\_\_\_\_  
 Fan Motor Voltage \_\_\_\_\_  
 Fan Motor FLA \_\_\_\_\_  
 Measured Amps \_\_\_\_\_

COOLING TOWER

Gravity \_\_\_\_\_  
 Mech. Draft \_\_\_\_\_  
 Manufacturer \_\_\_\_\_  
 Model No. \_\_\_\_\_  
 Type of Fan \_\_\_\_\_  
 Fan RPM \_\_\_\_\_  
 Fan Motor HP \_\_\_\_\_  
 Fan Motor Voltage \_\_\_\_\_  
 Fan Motor FLA \_\_\_\_\_  
 Measured Amps \_\_\_\_\_

CHILLED WATER PUMPS (If more than one, how many  
 operative during normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
 Model No. \_\_\_\_\_  
 Capacity Gals. \_\_\_\_\_  
 Head, Ft. \_\_\_\_\_  
 Motor HP \_\_\_\_\_  
 Motor Voltage \_\_\_\_\_  
 Motor FLA \_\_\_\_\_  
 Measured Amps \_\_\_\_\_

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
 Model No. \_\_\_\_\_  
 Capacity, Gals. \_\_\_\_\_  
 Head, Ft. \_\_\_\_\_  
 Motor HP \_\_\_\_\_  
 Motor Voltage \_\_\_\_\_  
 Motor FLA \_\_\_\_\_  
 Measured Amps \_\_\_\_\_

REMARKS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

## FANS

Type				
Unit/Zone	#	#	#	#
Manufacturer				
Model No.				
Type				
RPM of Fan				
Motor HP				
Motor Volts				
Motor FLA				
Measured Amps				
CFM (from Plans)				
Notes				

## COILS

Indicate capacities where found:

## COOLING

DX VA

H<sub>2</sub>O

OTHER

## HEATING

GAS

H<sub>2</sub>O

ELEC

OTHER

## HUMIDIFICATION

ELEC

STEAM

H<sub>2</sub>O

OTHER

## AUX/MISC OTHER

## FILTERS

Type			
Condition			
Manometer Reading 1/			

1/ Record only if manometer is installed on the unit.



3.4

DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENTLOCATION FH  
BLDG. NO. 252

- a. Is System Supported from (check one): ☐ Central Plant ☒ One System per Building  
☐ Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: 110 °F \_\_\_\_\_ °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:  
1" 20 ft  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
- d. Is Piping System Insulated and Condition: YES
- e. Is Hot Water Circulated? \_\_\_\_\_  
 1) Condition of circulator \_\_\_\_\_ 3) Is aquastat provided? \_\_\_\_\_  
 2) Circulator capacity \_\_\_\_\_ 4) Aquastat temperature setting \_\_\_\_\_

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- |  |                           |            |       |
|--|---------------------------|------------|-------|
| a. Location                                | <u>MECH</u>               | _____      | _____ |
| b. Areas Served                            | <u>ALL</u>                | _____      | _____ |
| c. Manufacturer and Model                  | <u>AMERICAN EFR-52-10</u> | _____      | _____ |
| d. Energy (Oil, Gas, Electric, Coal, Etc.) | <u>ELECT</u>              | _____      | _____ |
| e. Type Heaters & Quantities:              |                           |            |       |
| 1) Storage                                 | _____                     | _____      | _____ |
| 2) Instantaneous                           | _____                     | _____      | _____ |
| 3) Semi-Instantaneous                      | _____                     | _____      | _____ |
| f. Heater Size and Storage Capacity        | <u>52 gal</u>             | _____      | _____ |
| g. Heating Capacity                        | <u>6 kw</u>               | _____      | _____ |
| h. Type Controls (Air, Steam, Electric)    | <u>Electric</u>           | _____      | _____ |
| i. When Installed & Condition              | <u>MEID</u>               | _____      | _____ |
| j. Heater Temperature Setting              | _____                     | _____      | _____ |
| k. Average Water Maintained Temperature    | _____                     | _____      | _____ |
| l. Temperature Differential (j) - (k)      | _____                     | _____      | _____ |
| m. Is Hot Water Supply Adequate:           | _____                     | _____      | _____ |
| n. Insulation Thickness                    | _____                     | _____      | _____ |
| o. Insulation Material                     | _____                     | Type _____ | _____ |

DOMESTIC HOT WATER SYSTEM/EQUIPMENT

3.4

725

BLDG.

15

[illegible]

### LIGHTING LEGEND:

### Fixture Types:

Recessed = R  
Suspended = S  
Ventilated = V  
Pole Mounted = PM  
Other--Describe

**Lamp Types:**

Incandescent = I  
Fluorescent = F  
Sodium Vapor = SV  
Mercury Vapor = MV  
Metal Halide = MH  
Other--Describe

**Window Code:**

If there are windows, indicate:

Curtains = C  
Shades = S  
No Shading = NS

**Tasks Code:**

1 = Corridors  
2 = Kitchens  
3 = Dining  
4 = Offices-general  
5 = Offices-bookkeeping  
(ledgers only)  
6 = Offices-drafting  
7 = Laundry  
8 = Toilers  
9 = Sleeping quarters  
10 = Supply rooms  
11 = Repair shops  
12 = Storage room  
13 = Retail store  
(PX, commissary)  
Other (describe on  
audit form)  
E = Exterior

LOCATION F12  
BLDG. NO. 252

4.2 LIGHTING (continued)

4.2.2 Exterior Lighting

ACTUAL NO. OF FIXTURES	TYPE OF FIXTURE	NO. OF FIXTURES IN USE	WATTS/ FIXTURE	TOTAL WATTS	CONTROL TYPE*	REMARKS
<u>9</u>	<u>I</u>	<u>9</u>	<u>300</u>	<u>2700</u>	<u>M</u>	
<u>7</u>	<u>I</u>	<u>7</u>	<u>60</u>	<u>420</u>	<u>M</u>	

\* M = Manual T = Timer P = Photocell Enter schedule under Remarks.

CALCULATIONS

WATTS OF INTERIOR LIGHTING

Actual at time of survey \_\_\_\_\_

Total installed 420

WATTS OF EXTERIOR LIGHTING

Actual on at time of survey \_\_\_\_\_

Total installed \_\_\_\_\_

LIGHTING-EXTERIOR

LOCATION FH  
BLDG. NO. 252

4.3 POWER USAGE SURVEY

4.3.1 CRITICAL LOAD (Computer, Communications)

Describe: 2 computers  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4.3.2 RECEPTACLES IN USE \_\_\_\_\_ PERCENT

4.3.3 SMALL APPLIANCES IN USE (ENTER COUNT)

Water Cooler	<u>X</u>
Vending Machine	<u>✓</u>
Space Heater	_____
Coffee Pot	<u>X</u>
TV	_____
XEROX	_____
Other:	
_____	_____
_____	_____
_____	_____
_____	_____

# 2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FH SURVEYED BY BJH/RTB DATE OCT'92  
 BUILDING NUMBER 283 FUNCTION/USE STORAGE (FORMERLY FE SHOP)  
 INFORMATION SOURCE (DWG. NO./PERSON) INSPECTION

## GENERAL BUILDING DATA

BUILDING AGE: \_\_\_\_\_ YEARS

DUPLICATE BUILDING NOS: \_\_\_\_\_  
 TOTAL: \_\_\_\_\_

SIMILAR BUILDING NOS: \_\_\_\_\_  
 TOTAL: \_\_\_\_\_

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) ☐ NO. OF OCCUPANTS 2 AT

Indicate (number and) duration of occupants each day

10 HRS/WK MAX.

M																						
T																						
W																						
T																						
F																						
S																						
S																						
	0	2	4	6	8	10	12	14	16	18	20	22	24									

MISCELLANEOUS EQUIPMENT: \_\_\_\_\_  
6 ~ 1 HP MOTORS ON SHOP EQUIPMENT — NOT USED

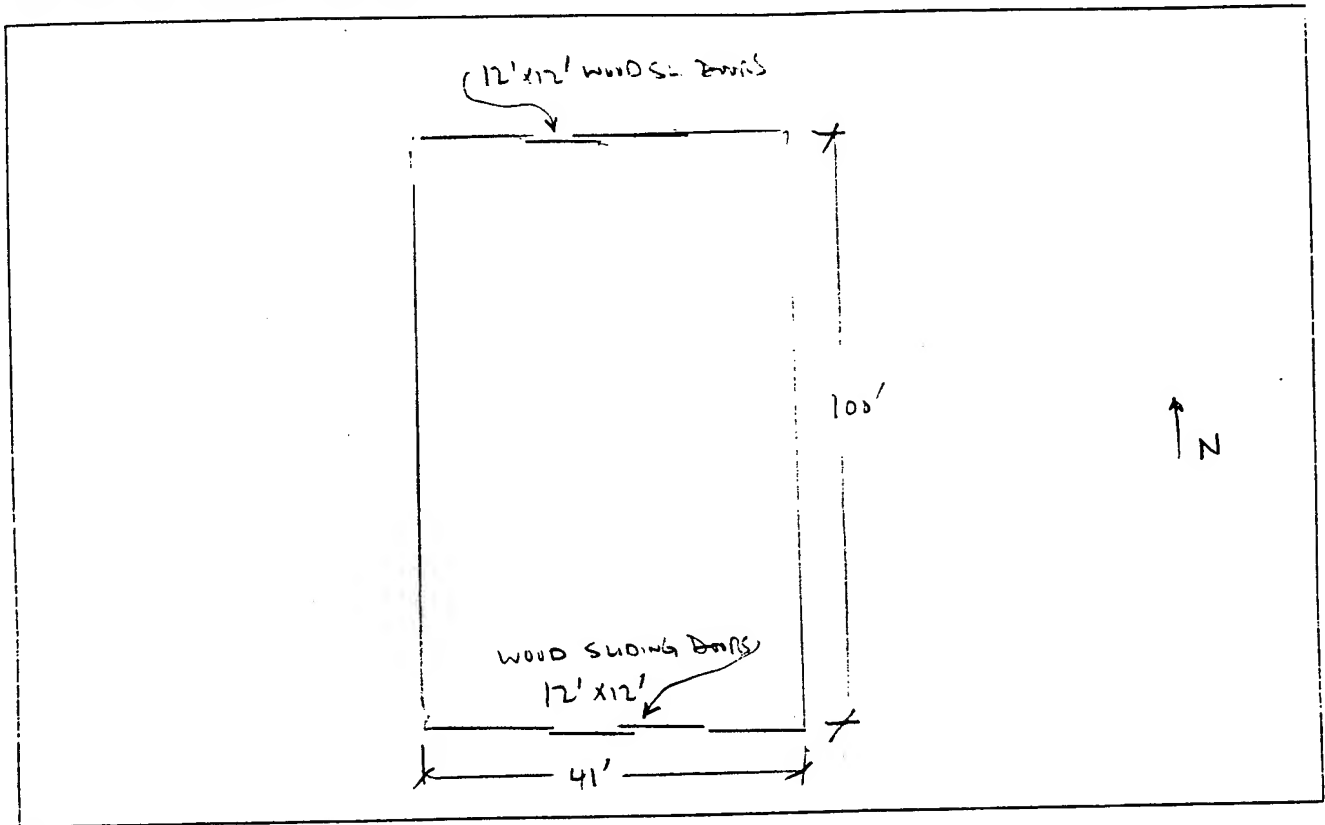
ADDITIONAL COMMENTS, CRITICAL LOADS: \_\_\_\_\_  
NO DHW

CRAWL SPACE: VENTILATED ☐ EXHAUSTED ☐ SOG

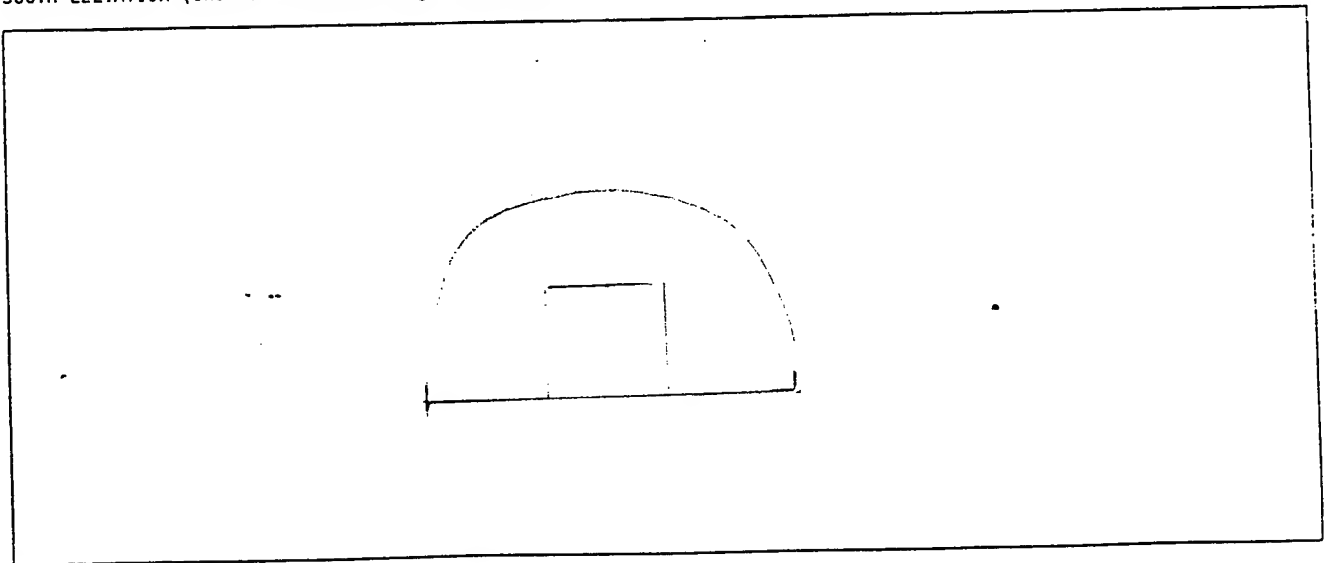
ATTIC: VENTILATED ☐ EXHAUSTED ☐ NONE

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



BUILDING FLOOR PLAN AND  
ELEVATION SKETCHES

[illegible]

**LEGEND:**

*GLAZING:	**FRAME:	***SHADING:	***VISIBILITY:	WINDOW TYPES:
1 - ORDINARY	W - WOOD	A - SOLAR FILM	E - AWNING	1 - DOUBLE HUNG
2 - 1/4" PLATE	M - METAL	B - VEN BLIND	F - SOLAR SCREEN	2 - SINGLE HUNG
3 - HEAT ABSORBING	T - METAL/THERMAL BREAK	C - STORM WINDOW	G - OVERHANG	3 - SLIDING
4 - TINTED		D - DRAPES	OTHER - SPECIFY	4 - CASEMENT
				5 - LOUVERED
				6 - FIXED GLASS

2.4 BUILDING ENVELOPE

LOCATION KAL

BLDG. NO. 283

CONSTRUCTION

QUONSET HUT

WALL

ALL

COLOR: D ☐

M ☒

L ☐

TYPE: F ☐

P ☐

COLOR: D ☐

M ☐

L ☐

ROOF (INCL. CLG.)

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
<u>METAL</u>		
<u>UNPAINTED</u>		
INSIDE FILM		

TOTAL

U-FACTOR

AREA

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		

TOTAL

U-FACTOR

AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		

TOTAL

U-FACTOR

AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		

TOTAL

U-FACTOR

AREA

BUILDING SKIRTING MATERIAL

BUILDING ENVELOPE

2.4



## 3.1 HEATING EQUIPMENT

LOCATION FHL  
BLDG. NO. 283

Heat Source:

☐ Furnace ☐ Steam Boiler ☐ Hot Water Boiler ☐ Heat Pump ☐ Supplied Steam or Hot Water (External Boiler Plant) ☒ Other UNIT HEATERS  
(3 EXH)Capacity: 75,000 Btu/Hr or \_\_\_\_\_ Boiler HP or \_\_\_\_\_ Lbs/Hr Steam or \_\_\_\_\_ GPM Hot Water

Manufacturer: \_\_\_\_\_ Model No.: \_\_\_\_\_

Boiler/Furnace Control: ☒ Manual ☐ Time Clock ☐ Demand ☐ EMCS ☐ O<sub>2</sub> Trim

Operating Temperature: \_\_\_\_\_ °F Operating Pressure: \_\_\_\_\_ PSI

Fuel: ☐ Nat. Gas Only ☐ Nat. Gas/  
☒ Other (Specify) PROPANE Draft: ☐ Forced  
☐ InducedBurner: Mfg. \_\_\_\_\_ Model No. \_\_\_\_\_ Metering Equipment: ☐ Yes ☐ No

Operating Schedule: Weekdays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

Weekdays &amp; Holidays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

Operating Season: From \_\_\_\_\_ Mon/Day, to \_\_\_\_\_ Mon/Day

Flue Gas Temperature: \_\_\_\_\_ °F Receiver Tank Conditions: \_\_\_\_\_ PSIG \_\_\_\_\_ °F

If supplied Steam or Hot Water: Steam Pressure \_\_\_\_\_ PSI Hot Water Supply Temp. \_\_\_\_\_ °F Hot Water Return Temp. \_\_\_\_\_ °F

Insulation: (1) Boiler (2) Other (Specify) \_\_\_\_\_  
Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup> Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>  
None ☐ Temp. \_\_\_\_\_ °F None ☐ Temp. \_\_\_\_\_ °F

Pump: No. of Pumps \_\_\_\_\_ V/PH/FLA \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_ RPM \_\_\_\_\_

HW Pump Starter: ☐ HOA ☐ Reset P/B ☐ S/S Push Button Interlocked with Boiler? ☐ Yes ☐ No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. \_\_\_\_\_ Model \_\_\_\_\_

Condensate Pumps/Hot Water Pumps: Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_

Boiler/Furnace Condition: \_\_\_\_\_

Describe \_\_\_\_\_

Occupant Discomfort (Evaluate): \_\_\_\_\_

HEATING EQUIPMENT

3.2 COOLING EQUIPMENTLOCATION FHL  
SLOG. NO. 283COMPRESSOR(S)/CHILLER

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Size \_\_\_\_\_  
Refrigerant \_\_\_\_\_  
Motor HP (if available) \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

CONDENSER/CONDENSING UNIT

Water Cooled \_\_\_\_\_  
Air Cooled \_\_\_\_\_  
Evaporative \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Size \_\_\_\_\_  
Type of Fan \_\_\_\_\_  
Fan Motor HP \_\_\_\_\_  
Fan Motor Voltage \_\_\_\_\_  
Fan Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

COOLING TOWER

Gravity \_\_\_\_\_  
Mech. Draft \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Type of Fan \_\_\_\_\_  
Fan RPM \_\_\_\_\_  
Fan Motor HP \_\_\_\_\_  
Fan Motor Voltage \_\_\_\_\_  
Fan Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

CHILLED WATER PUMPS (If more than one, how many  
operative during normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity, Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

REMARKS:

2 EVAPORATIVE COOLERS @ 3/4 HP EA WATER LEAK CONC  
(APPROX 120 DRAS/min)  
1 WINDOW HEAT PUMP (2 TONS ±)

COOLING EQUIPMENT

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

LOCATION FPL  
BLDG. NO. 283

CONTROL SYSTEM:

CONTROLLERS: ☐ ELECTRIC ☐ PNEUMATIC  
☐ ELECTRONIC

OPERATION: ☐ MANUAL ☐ TIME CLOCK  
☐ CONTINUOUS ☐ EMCS  
☒ DEMAND

MFG \_\_\_\_\_ MODEL \_\_\_\_\_ LOCATION \_\_\_\_\_

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

SEPARATE T-STAT FOR EACH UNIT HEATER

MANUAL CONTROL OF HEAT PUMP & EVAP COOLERS

CONTROL/MISCELLANEOUS PROCESS/SKETCHES

[illegible]

LIGHTING LEGEND:

**Lamp Types:**

Incandescent = I  
Fluorescent = F  
Sodium Vapor = SV  
Mercury Vapor = MV  
Metal Halide = MH  
Other--Describe

**Window Code:**

If there are windows, indicate:

Curtains = C  
Shades = S  
No Shading = NS

**Tasks Code:**

1 = Corridors  
2 = Kitchens  
3 = Dining  
4 = Offices-general  
5 = Offices-bookkeeping (ledgers only)  
6 = Offices-drafting  
7 = Laundry  
8 = Toilets  
9 = Sleeping quarters  
10 = Supply rooms  
11 = Repair shops  
12 = Storage room  
13 = Retail store (px, commissary)  
Other (describe on audit form)  
E = Exterior

**Fixture Types:**

Recessed = R  
Suspended = S  
Ventilated = V  
Pole Mounted = PM  
Other--Describe

2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FH SURVEYED BY RH/RJB DATE 05 92  
BUILDING NUMBER 290 FUNCTION/USE ELECTRON EQUIP FA.  
INFORMATION SOURCE (DWG. NO./PERSON) SURVEY / INTERVIEW

GENERAL BUILDING DATA

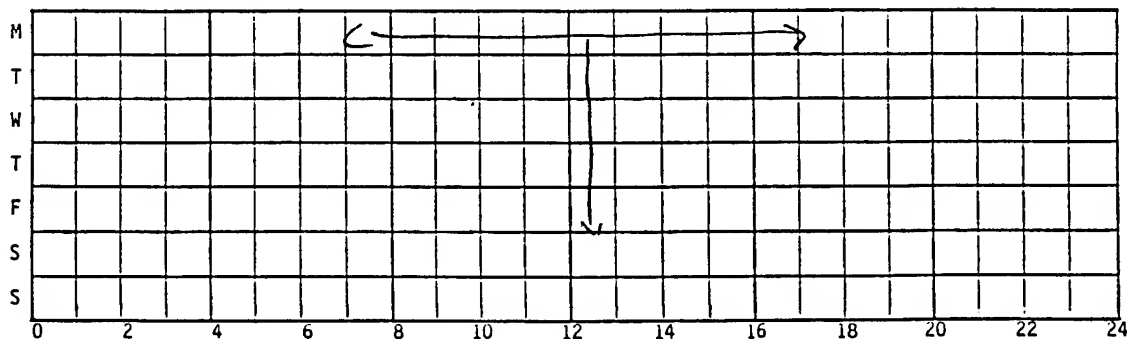
BUILDING AGE: 14 YEARS

DUPLICATE BUILDING NOS: \_\_\_\_\_  
TOTAL: \_\_\_\_\_

SIMILAR BUILDING NOS: \_\_\_\_\_  
TOTAL: \_\_\_\_\_

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) ☐ NO. OF OCCUPANTS 4

Indicate (number and) duration of occupants each day



MISCELLANEOUS EQUIPMENT: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

ADDITIONAL COMMENTS, CRITICAL LOADS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

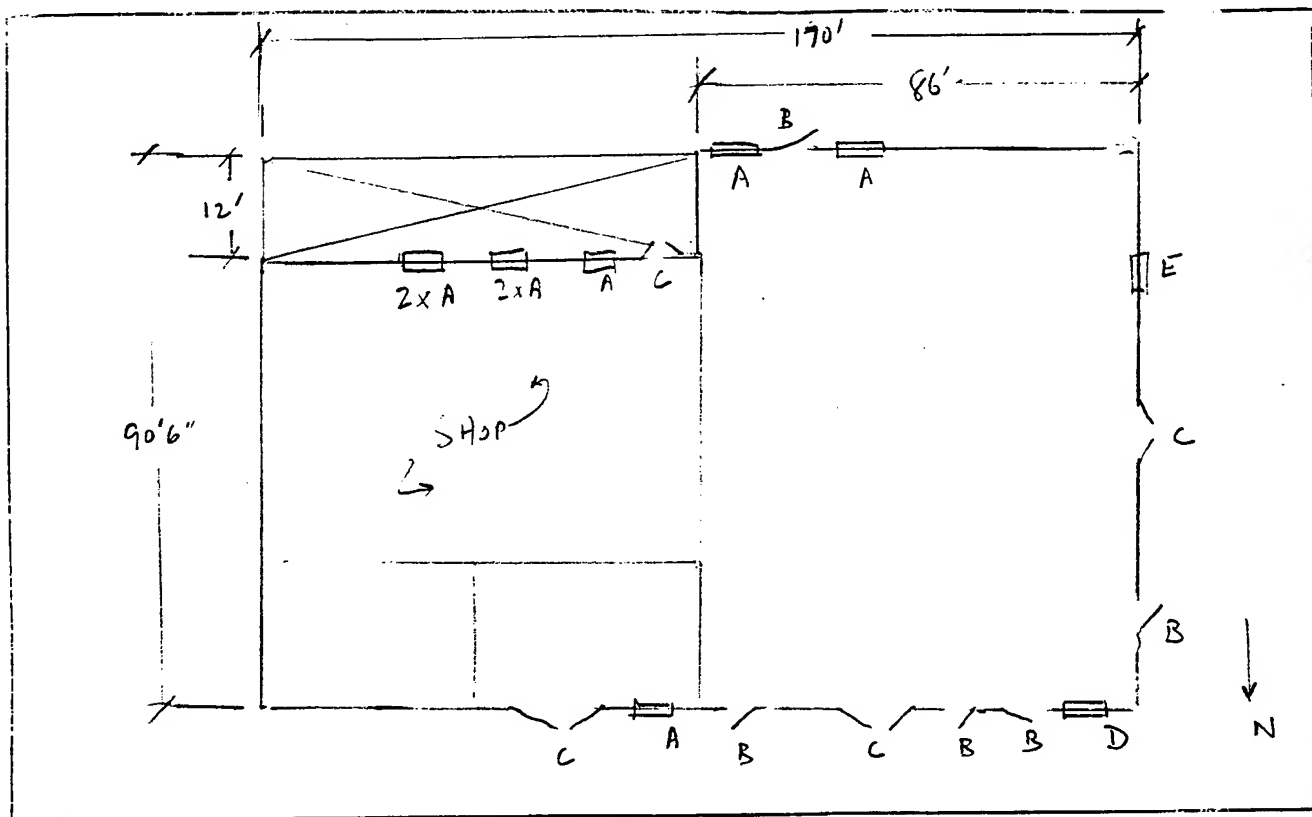
CRAWL SPACE: VENTILATED ☒ EXHAUSTED ☐

ATTIC: VENTILATED ☐ EXHAUSTED ☐

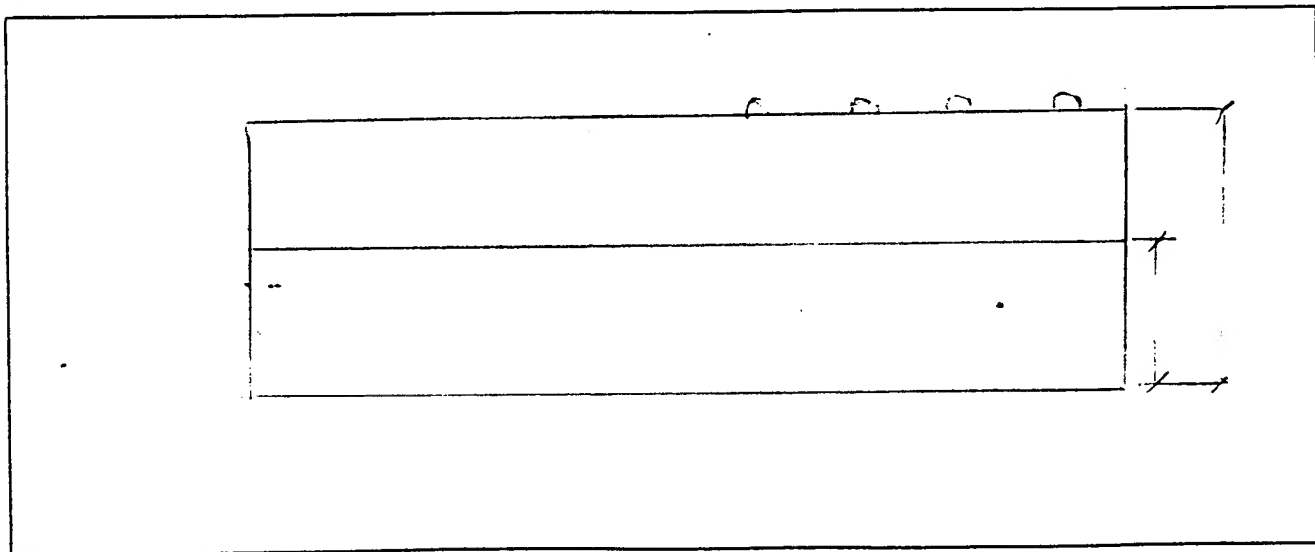
## 2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

LOCATION File  
BLDG. NO. 290

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



BUILDING FLOOR PLAN AND  
ELEVATION SKETCHES



# 2.4 BUILDING ENVELOPE

LOCATION Fit  
BLDG. NO. 290

## CONSTRUCTION

WALL  COLOR: D ☐ M ☐ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.25
MEAN SIDE		0.61
BATT 3"		11.00
FRAME		-
CLIP		0.45
INSIDE FILM		0.68
TOTAL		12.99

U-FACTOR  AREA

TYPE: F ☐ P ☐  
COLOR: D ☐ M ☐ L ☐

## ROOF (INCL. CLG.)

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.25
MEAN SIDE		0.61
2-19		19.00
CLIP		0.45
INSIDE FILM		0.68
TOTAL		20.99

U-FACTOR  AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

BUILDING SKIRTING MATERIAL



## HEATING EQUIPMENT

LOCATION FH  
BLDG. NO. 290

## Heat Source:

☐ Furnace  
 ☐ Steam Boiler  
 ☒ Hot Water Boiler  
 ☐ Heat Pump  
 ☐ Supplied Steam or Hot Water (External Boiler Plant)  
 ☐ Other \_\_\_\_\_

Capacity: 216 MBtu/Hr or \_\_\_\_\_ Boiler HP or \_\_\_\_\_ Lbs/Hr Steam or \_\_\_\_\_ GPM Hot WaterManufacturer: CRANE Model No.: 7-402Boiler/Furnace Control: ☐ Manual ☐ Time Clock ☒ Demand ☐ EMCS ☐ O<sub>2</sub> TrimOperating Temperature: 140 °F Operating Pressure: \_\_\_\_\_ PSI
 Fuel: ☐ Nat. Gas Only ☐ Nat. Gas/\_\_\_\_\_  
☒ Other (Specify) PROPANE

 Draft: \_\_\_\_\_ Forced  
 \_\_\_\_\_ Induced
Burner: Mfg. \_\_\_\_\_ Model No. \_\_\_\_\_ Metering Equipment: ☐ Yes ☐ No

Operating Schedule: Weekdays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

Weekdays &amp; Holidays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

Operating Season: From NA Mon/Day, to \_\_\_\_\_ Mon/Day

Flue Gas Temperature: \_\_\_\_\_ °F Receiver Tank Conditions: \_\_\_\_\_ PSIG \_\_\_\_\_ °F

If supplied Steam or Hot Water: Steam Pressure \_\_\_\_\_ PSI Hot Water Supply Temp. \_\_\_\_\_ °F Hot Water Return Temp. \_\_\_\_\_ °F

## Insulation: (1) Boiler

 Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>  
 None ☒ Temp. \_\_\_\_\_ °F

## (2) Other (Specify) \_\_\_\_\_

 Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>  
 None ☐ Temp. \_\_\_\_\_ °F
Pump: No. of Pumps 1 V/PH/FLA \_\_\_\_\_Mfg. PACO Model 0-15701-7300X1A02-1HP RPM 1725HW Pump Starter: ☐ HOA ☐ Reset P/B ☐ S/S Push Button Interlocked with Boiler? ☐ Yes ☐ No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. \_\_\_\_\_ Model \_\_\_\_\_

Condensate Pumps/Hot Water Pumps: Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_

Boiler/Furnace Condition: \_\_\_\_\_

Describe NA

Occupant Discomfort (Evaluate): \_\_\_\_\_

HEATING EQUIPMENT

COMPRESSOR(S) ~~CHILLER~~ - PACKAGED

Manufacturer TRANE CARRIER  
 Model No. CA125BRM 5590P000  
 Size 26 TONS  
 Refrigerant R-22  
 Motor HP (if available) \_\_\_\_\_  
 Motor Voltage 440 230  
 Motor FLA 44 21.3  
 Measured Amps -

## CONDENSER/CONDENSING UNIT

Water Cooled \_\_\_\_\_  
 Air Cooled 1  
 Evaporative \_\_\_\_\_  
 Manufacturer \_\_\_\_\_  
 Model No. \_\_\_\_\_  
 Size \_\_\_\_\_  
 Type of Fan \_\_\_\_\_  
 Fan Motor HP 3 1/3  
 Fan Motor Voltage 440 230/1φ  
 Fan Motor FLA 4.3 2.0  
 Measured Amps \_\_\_\_\_

## COOLING TOWER

Gravity \_\_\_\_\_  
 Mech. Draft \_\_\_\_\_  
 Manufacturer \_\_\_\_\_  
 Model No. \_\_\_\_\_  
 Type of Fan DA  
 Fan RPM \_\_\_\_\_  
 Fan Motor HP \_\_\_\_\_  
 Fan Motor Voltage \_\_\_\_\_  
 Fan Motor FLA \_\_\_\_\_  
 Measured Amps \_\_\_\_\_

CHILLED WATER PUMPS (If more than one, how many  
operative during normal operation: \_\_\_\_\_)

Manufacturer PACO  
 Model No. 10257051300X1442  
 Capacity Gals. \_\_\_\_\_  
 Head, Ft. \_\_\_\_\_  
 Motor HP 1  
 Motor Voltage 460  
 Motor FLA 1.8  
 Measured Amps \_\_\_\_\_

## CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
 Model No. \_\_\_\_\_  
 Capacity, Gals. \_\_\_\_\_  
 Head, Ft. \_\_\_\_\_  
 Motor HP 1/2  
 Motor Voltage \_\_\_\_\_  
 Motor FLA \_\_\_\_\_  
 Measured Amps \_\_\_\_\_

## 2EA - BARD PACO A/C UNITS

Compressor: 240V/13A/3φ  
 OUTSIDE FAN: 240V/3.6A/1φ  
 INSIDE FAN:

HEAT STRIP: 240V/21.7A/3φ/19kw

REMARKS: 20 FT OF 2 1/2" PIPE NEEDS INSULATION

# 3.3 AIR HANDLING EQUIPMENT

LOCATION FH  
BLDG. NO. 290

## FANS

Type	<u>Att</u>			
Unit/Zone	<u># 12</u>	#	#	#
Manufacturer	<u>TRANE</u>			
Model No.	<u>CLC17</u>			
Type	<u>17</u>			
RPM of Fan	<u>1120</u>			
Motor HP	<u>-</u>			
Motor Volts	<u>230</u>			
Motor FLA	<u>-</u>			
Measured Amps	<u>5.8</u>			
CFM (from Plans)				
Notes				

## COILS

Indicate capacities where found:

COOLING	HUMIDIFICATION
DX	ELEC
H <sub>2</sub> O <u>Y</u>	STEAM
OTHER	H <sub>2</sub> O
HEATING	OTHER
GAS	AUX/MISC OTHER
H <sub>2</sub> O <u>Y</u>	
ELEC	
OTHER	

## FILTERS

Type	
Condition	<u>OK</u>
Manometer Reading 1/	<u>112</u>

1/ Record only if manometer is installed on the unit.

ACCESSORY HEATERS 230V/3φ 20.8 FLA  
31.1  
41.5  
52.0 Y

AIR HANDLING EQUIPMENT

# 3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

LOCATION Fitz  
BLDG. NO. 290

- a. Is System Supported from (check one): ☐ Central Plant ☒ One System per Building  
☐ Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: 120 °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:  
1" 30 ft
- d. Is Piping System Insulated and Condition: NO
- e. Is Hot Water Circulated? YES
- 1) Condition of circulator good 3) Is aquastat provided? NO
- 2) Circulator capacity 1 1/2 HP 4) Aquastat temperature setting NO

## DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- a. Location MECH
- b. Areas Served ALL
- c. Manufacturer and Model AD SMITH BT-197-681
- d. Energy (Oil, Gas, Electric, Coal, Etc.) PROPANE
- e. Type Heaters & Quantities:
- 1) Storage
- 2) Instantaneous
- 3) Semi-Instantaneous
- f. Heater Size and Storage Capacity 100 GAL
- g. Heating Capacity 197 MBH out
- h. Type Controls (Air, Steam, Electric) ELEC.
- i. When Installed & Condition MECH
- j. Heater Temperature Setting /
- k. Average Water Maintained Temperature /
- l. Temperature Differential (j) - (k) /
- m. Is Hot Water Supply Adequate: /
- n. Insulation Thickness / Type /
- o. Insulation Material /

DOMESTIC HOT WATER SYSTEM/EQUIPMENT

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

LOCATION F12  
BLDG. NO. 290

CONTROL SYSTEM:

CONTROLLERS:

☐

ELECTRIC

☐

PNEUMATIC

☐

ELECTRONIC

OPERATION:

☐

MANUAL

☐

CONTINUOUS

☐

DEMAND

☒

TIME CLOCK

☐

EMCS

MFG \_\_\_\_\_ MODEL \_\_\_\_\_ LOCATION \_\_\_\_\_

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

SETTINGS: ON 6:30 AM

OFF 7:00 PM

AAA SET UP FOR ECONOMIZER - NOT OPERATING PROPERLY

CONTROL/MISCELLANEOUS PROCESS/SKETCHES

### 3.6 SPECIAL EQUIPMENT

LOCATION FHL  
BLDG. NO. 290

[illegible]

SPECIAL EQUIPMENT

## LIGHTING

**LOCATION**

**BLDG.**

290

[illegible]

LIGHTING LEGEND:

**Fixture Types:**

Recessed = R  
Suspended = S  
Ventilated = V  
Pole Mounted = PM  
Other--Describe

**Lamp Types:**

Incandescent = I  
Fluorescent = F  
Sodium Vapor = SV  
Mercury Vapor = MV  
Metal Halide = MH  
Other--Describe

**Window Code:**

If there are windows, indicate:

Curtains = C  
 Shades = S  
 No Shading = NS

**Tasks Code:**

1 = Corridors	6 = Offices-drafting	12 = Storage room
2 = Kitchens	7 = Laundry	13 = Retail store
3 = Dining	8 = Toilets	(PX, commissary)
4 = Offices-general	9 = Sleeping quarters	Other (describe on
5 = Offices-bookkeeping (ledgers only)	10 = Supply rooms	audit form)
	11 = Repair shops	E = Exterior

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED ( $\text{FT}^2$ )	WATTS PER SQ.FT.	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS C E I L L I N G F L O R	FINISH C E I L L I N G F L O R	WINDOW CODE	REMARKS  (LIGHTS/SWITCH)
SHP	S	F	2 / 35	40												
"	S	F	2 / 35	4												
HAL	SURF	F	2 / 35	3												
J.C.	S	F	2 / 35	1												
UNDER	S	F	2 / 35	2												
NEN	S	F	2 / 35	3												
SHOWER ROOM	S	F	2 / 35	21												
ASHED	S	F	6 / 35	50						50-60						
RECEPT	SURF	F	2 / 35	80												
OFFICE 1	SURF	F	1 / 35	2												
OFFICE 2	SURF	F	2 / 35	21												
TOTAL BUILDING LIGHTING ENERGY																

### LIGHTING LEGEND:

**Lamp Types:**

**Window Code:**

**Tasks Code:**

Tasks Code:	
1 = Corridors	6 = Offices-drafting
2 = Kitchens	7 = Laundry
3 = Dining	8 = Toilets
4 = Offices-general	9 = Sleeping quarters
5 = Offices-bookkeeping (ledgers only)	10 = Supply rooms
	11 = Repair shops
	12 = Storage room
	13 = Retail store
	Other (describe on audit form)
	E = Exterior

**Fixture Types:**  
 Recessed = R  
 Suspended = S  
 Ventilated = V  
 Pole Mounted = PM  
 Other--Describe

LIGHTING  
4.2.1

#### 4.2.1



Location FHL  
BLDG. NO. 290

#### 4.2 LIGHTING (continued)

##### 4.2.2 Exterior Lighting

ACTUAL NO. OF FIXTURES	TYPE OF FIXTURE	NO. OF FIXTURES IN USE	WATTS/ FIXTURE	TOTAL WATTS	CONTROL TYPE*	REMARKS
<u>3</u>	<u>Quartz</u>	<u>3</u>	<u>500</u>	<u>1500</u>	<u>M</u>	

\* M = Manual    T = Timer    P = Photocell    Enter schedule under Remarks.

#### CALCULATIONS

##### WATTS OF INTERIOR LIGHTING

Actual at time of survey \_\_\_\_\_

Total installed \_\_\_\_\_

##### WATTS OF EXTERIOR LIGHTING

Actual on at time of survey \_\_\_\_\_

Total installed \_\_\_\_\_

Lighting- Exterior

# 2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION Fth SURVEYED BY RJB/BIH DATE 05 92  
 BUILDING NUMBER 291 FUNCTION/USE Cott House Warehouse  
 INFORMATION SOURCE (DWG. NO./PERSON) Survey

## GENERAL BUILDING DATA

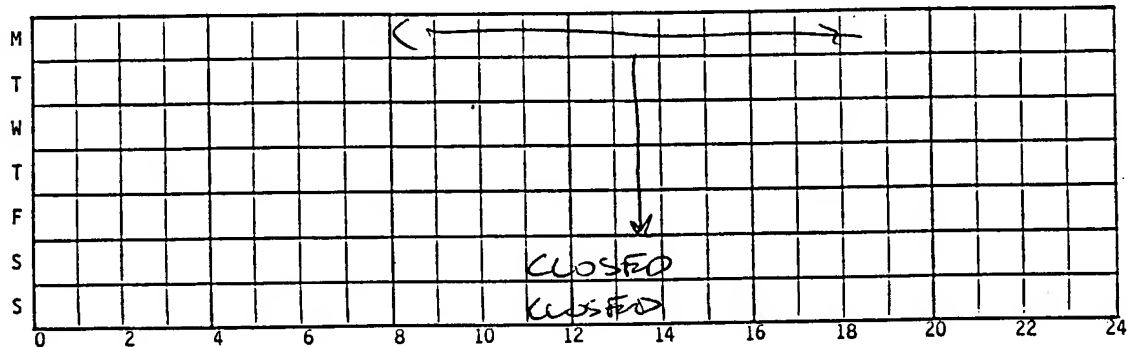
BUILDING AGE: MED YEARS

DUPLICATE BUILDING NOS: \_\_\_\_\_ TOTAL: \_\_\_\_\_

SIMILAR BUILDING NOS: \_\_\_\_\_ TOTAL: \_\_\_\_\_

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) ☐ NO. OF OCCUPANTS 15

Indicate (number and) duration of occupants each day



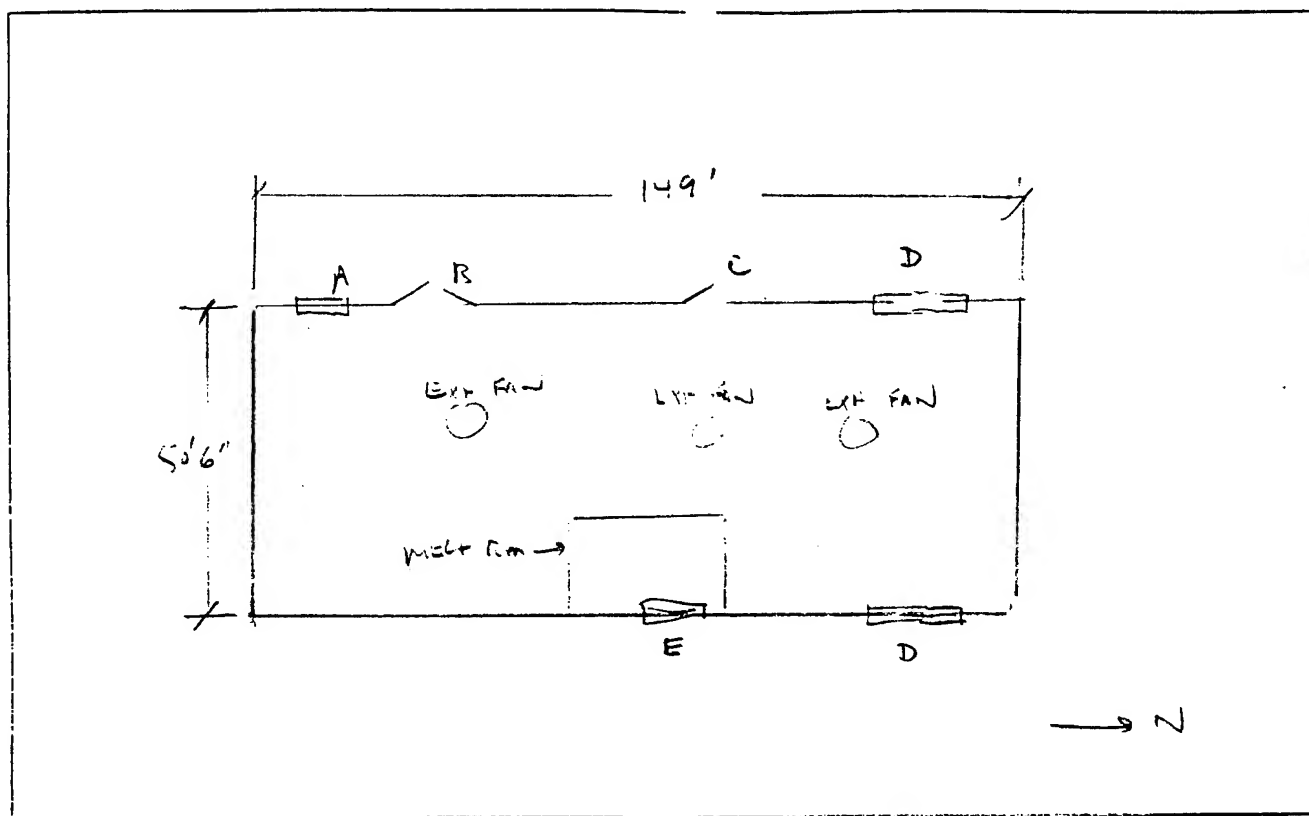
MISCELLANEOUS EQUIPMENT: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

ADDITIONAL COMMENTS, CRITICAL LOADS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

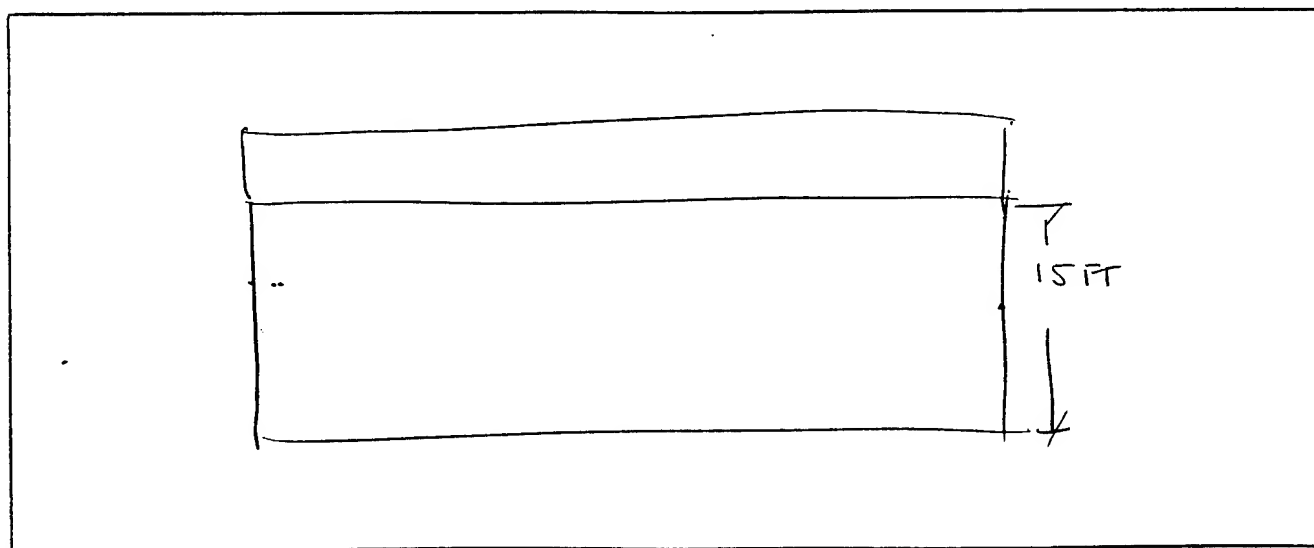
CRAWL SPACE: VENTILATED ☒ EXHAUSTED ☐

ATTIC: VENTILATED ☐ EXHAUSTED ☐

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



LOCATION ...FHL  
BLDG. NO. 291

*GLAZING:	**FRAME:	***SHADING:	****VISIBILITY:	*****WINDOW TYPES:
1 - ORDINARY	W - WOOD	A - SOLAR FILM	F - AWNING	1 - DOUBLE HUNG
2 - 1/4" PLATE	M - METAL	B - VEN BLIND	F - SOLAR SCREEN	2 - SINGLE HUNG
3 - HEAT ABSORBING	T - METAL/THERMAL BREAK	C - STORM WINDOW	G - OVERHANG	3 - SLIDING
4 - TINTED		D - DRAPES	OTHER - SPECIFY	4 - CASEMENT
				5 - LOUVERED
				6 - FIXED GLASS

2.4 BUILDING ENVELOPE

LOCATION FH  
BLDG. NO. 291

CONSTRUCTION

WALL  COLOR: D ☐ M ☐ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.25
MEATL SIDE		0.61
3" BATT		11
GYP BOARD		0.45
INSIDE FILM		0.68
TOTAL		12.99

U-FACTOR .08 AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

BUILDING SKIRTING MATERIAL

ROOF (INCL. CLG.)

TYPE: F ☐ P ☐  
COLOR: D ☐ M ☐ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.25
MEATL DECK		0.61
6" BATT		19
GYP BOARD		0.45
INSIDE FILM		0.68
TOTAL		21

U-FACTOR 0.05 AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

### 3.1 HEATING EQUIPMENT

LOCATION FHL  
BLDG. NO. 291

Heat Source:

☐ Furnace ☒ Steam Boiler ☐ Hot Water Boiler ☐ Heat Pump ☐ Supplied Steam or Hot Water (External Boiler Plant) ☐ Other \_\_\_\_\_

Capacity: 1,020,000 Btu/Hr or \_\_\_\_\_ Boiler HP or \_\_\_\_\_ Lbs/Hr Steam or \_\_\_\_\_ GPM Hot Water

Manufacturer: \_\_\_\_\_ Model No.: \_\_\_\_\_

Boiler/Furnace Control: ☐ Manual ☐ Time Clock ☐ Demand ☐ EMCS ☐ O<sub>2</sub> Trim

Operating Temperature: \_\_\_\_\_ °F Operating Pressure: \_\_\_\_\_ PSI

Fuel: ☐ Nat. Gas Only ☐ Nat. Gas/ \_\_\_\_\_  
☒ Other (Specify) PROPANE

Draft: ☐ Forced  
\_\_\_\_\_ Induced

Burner: Mfg. \_\_\_\_\_ Model No. \_\_\_\_\_ Metering Equipment: ☐ Yes ☐ No

Operating Schedule: Weekdays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day  
Weekdays & Holidays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day  
Operating Season: From \_\_\_\_\_ Mon/Day, to \_\_\_\_\_ Mon/Day

Flue Gas Temperature: \_\_\_\_\_ °F Receiver Tank Conditions: \_\_\_\_\_ PSIG \_\_\_\_\_ °F

If supplied Steam or Hot Water: Steam Pressure \_\_\_\_\_ PSI Hot Water Supply Temp. \_\_\_\_\_ °F Hot Water Return Temp. \_\_\_\_\_ °F

Insulation: (1) Boiler  
Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup> None ☐ Temp. \_\_\_\_\_ °F  
(2) Other (Specify) \_\_\_\_\_  
Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup> None ☐ Temp. \_\_\_\_\_ °F

Pump: No. of Pumps \_\_\_\_\_ V/PH/FLA \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_ RPM \_\_\_\_\_  
HW Pump Starter: ☐ HOA ☐ Reset P/B ☐ S/S Push Button Interlocked with Boiler? ☐ Yes ☐ No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. \_\_\_\_\_ Model \_\_\_\_\_

Condensate Pumps/Hot Water Pumps: Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_

Boiler/Furnace Condition: \_\_\_\_\_  
Describe \_\_\_\_\_

Occupant Discomfort (Evaluate): NA

### 3.2 COOLING EQUIPMENT

LOCATION KFL  
BLDG. NO. 291

#### COMPRESSOR(S)/CHILLER

SPLIT  
SYSTEM

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Size \_\_\_\_\_  
Refrigerant \_\_\_\_\_  
Motor HP (if available) \_\_\_\_\_  
Motor Voltage 460V/3p  
Motor FLA \_\_\_\_\_  
Measured Amps 10.6/9.6/7.4

#### CONDENSER/CONDENSING UNIT

Water Cooled \_\_\_\_\_  
Air Cooled ✓  
Evaporative \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Size \_\_\_\_\_  
Type of Fan \_\_\_\_\_  
Fan Motor HP \_\_\_\_\_  
Fan Motor Voltage \_\_\_\_\_  
Fan Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

#### COOLING TOWER

Gravity \_\_\_\_\_  
Mech. Draft \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Type of Fan \_\_\_\_\_  
Fan RPM \_\_\_\_\_  
Fan Motor HP \_\_\_\_\_  
Fan Motor Voltage \_\_\_\_\_  
Fan Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

#### CHILLED WATER PUMPS (If more than one, how many operative during normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

#### CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity, Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

REMARKS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

COOLING EQUIPMENT

### 3.3 AIR HANDLING EQUIPMENT

LOCATION FHL  
BLDG. NO. 291

#### FANS

Type

Unit/Zone

Manufacturer

Model No.

Type

RPM of Fan

Motor HP

Motor Volts

Motor FLA

Measured Amps

CFM (from Plans)

Notes

EXHAUST FANS - 2 @ 1HP, 1 @ 1 1/2 HP, 1 @ 1/2 HP			
#	<u>124</u>	#	
Unit/Zone		#	
Manufacturer		#	
Model No.		PAINT SPRAY Booth - 5 HP EXHAUST FAN	
Type		16,400 CFM	
RPM of Fan	<u>503</u>		
Motor HP			
Motor Volts	<u>460 / 3p</u>		
Motor FLA			
Measured Amps	<u>2.0 / 2.0 / 2.0</u>		
CFM (from Plans)			
Notes			

#### COILS

Indicate capacities where found:

##### COOLING

DX ☒

H<sub>2</sub>O

OTHER

##### HEATING

GAS

H<sub>2</sub>O

ELEC

OTHER

##### HUMIDIFICATION

ELEC

STEAM

H<sub>2</sub>O

OTHER

##### AUX/MISC OTHER

OTHER STEAM

#### FILTERS

Type

Condition

Manometer Reading 1/

<u>METAL</u>		
<u>CLEAN</u>		

1/ Record only if manometer is installed on the unit.

AIR HANDLING EQUIPMENT



3.4

DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENTLOCATION FIR  
BLDG. NO. 291

- a. Is System Supported from (check one): ☐ Central Plant ☐ One System per Building  
☐ Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: \_\_\_\_\_ °F \_\_\_\_\_ °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
- d. Is Piping System Insulated and Condition: \_\_\_\_\_
- e. Is Hot Water Circulated? \_\_\_\_\_
- 1) Condition of circulator \_\_\_\_\_ 3) Is aquastat provided? \_\_\_\_\_  
 2) Circulator capacity \_\_\_\_\_ 4) Aquastat temperature setting \_\_\_\_\_

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- |  |       |            |       |
|--|-------|------------|-------|
| a. Location                                | _____ | _____      | _____ |
| b. Areas Served                            | _____ | _____      | _____ |
| c. Manufacturer and Model                  | _____ | _____      | _____ |
| d. Energy (Oil, Gas, Electric, Coal, Etc.) | _____ | _____      | _____ |
| e. Type Heaters & Quantities:              |       |            |       |
| 1) Storage                                 | _____ | _____      | _____ |
| 2) Instantaneous                           | _____ | _____      | _____ |
| 3) Semi-Instantaneous                      | _____ | _____      | _____ |
| f. Heater Size and Storage Capacity        | _____ | _____      | _____ |
| g. Heating Capacity                        | _____ | _____      | _____ |
| h. Type Controls (Air, Steam, Electric)    | _____ | _____      | _____ |
| i. When Installed & Condition              | _____ | _____      | _____ |
| j. Heater Temperature Setting              | _____ | _____      | _____ |
| k. Average Water Maintained Temperature    | _____ | _____      | _____ |
| l. Temperature Differential (j) - (k)      | _____ | _____      | _____ |
| m. Is Hot Water Supply Adequate:           | _____ | _____      | _____ |
| n. Insulation Thickness                    | _____ | Type _____ | _____ |
| o. Insulation Material                     | _____ | _____      | _____ |

DOMESTIC HOT WATER SYSTEM/EQUIPMENT

3.4

LOCATION FHL

BLDG. NO. 291

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

CONTROL SYSTEM:

CONTROLLERS:

☐

ELECTRIC

☐

PNEUMATIC

☐

ELECTRONIC

OPERATION:

☐

MANUAL

☐

TIME CLOCK

☐

CONTINUOUS

☐

EMCS

☐

DEMAND

MFG \_\_\_\_\_

MODEL \_\_\_\_\_

LOCATION \_\_\_\_\_

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

DAMPER POSITIONS ARE MANUALLY CHANGED - NO CONTROLS

CONTROL/MISCELLANEOUS PROCESS/SKETCHES

## LIGHTING

LOCATION

Ftr

BLDG.

291

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/ DAY ON	DAYS/ YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT <sup>2</sup> )	WATTS PER SQ. FT. (W/FT <sup>2</sup> )	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS	FINISH	WINDOW CODE	REMARKS (LIGHTS/SWITCH)
Big Office	Surf	F	2	5							55		C E I I L L O O R R	C E I I L L O O R R		
	Surf	F	2	20												
	S	F	1	10												
Small Office	Surf	R	4	6							50					
HALL	Surf	I	1	1												
Stair																
Corridor	Surf	R	2	26												
Privet	Surf	I	1	1												
E	Surf	Quartz	1	4												
E	Surf	I 60	1	2												
TOTAL BUILDING LIGHTING ENERGY																

6 FT

## LIGHTING LEGEND:

Fixture Types:	Lamp Types:	Window Code:	Tasks Code:
Recessed = R	Incandescent = I	If there are windows, indicate:	1 = Corridors
Suspended = S	Fluorescent = F		2 = Kitchens
Ventilated = V	Sodium Vapor = SV	Curtains = C	3 = Dining
Pole Mounted = PM	Mercury Vapor = MV	Shades = S	4 = Offices-general
Other--Describe	Metal Halide = MH	No Shading = NS	5 = Offices-bookkeeping (ledgers only)
			6 = Offices-drafting
			7 = Laundry
			8 = Toilets
			9 = Sleeping quarters
			10 = Supply rooms
			11 = Repair shops
			12 = Storage room
			13 = Retail store (PX, commissary)
			Other (describe on audit form)
			E = Exterior

## 2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FAL SURVEYED BY BH / RJB DATE 8 Oct 72

BUILDING NUMBER 295 FUNCTION/USE BARACKS

INFORMATION SOURCE (DWG. NO./PERSON) Inspection of FIRST SERGEANT & AS-BUNT  
DWGS

### GENERAL BUILDING DATA

BUILDING AGE: \_\_\_\_\_ YEARS

DUPLICATE BUILDING NOS: \_\_\_\_\_

TOTAL:

SIMILAR BUILDING NOS: \_\_\_\_\_

TOTAL:

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) ☒

NO. OF OCCUPANTS 66

Indicate (number and) duration of occupants each day

See # of Rooms

MISCELLANEOUS EQUIPMENT: 1ST FLOOR <sup>100</sup>Washer/Dryer - Domestic w/ HW

Water Coolers : 3

Zn6.Hr 2 washer/elec Dryers - Domestic w/HW

3 water coolers

3rd Flr 2 washers / Elac Dryers Donastu w / Hu

GF Lobby = 1 Pepsi machine & 1 vending machine

ADDITIONAL COMMENTS, CRITICAL LOADS: \_\_\_\_\_

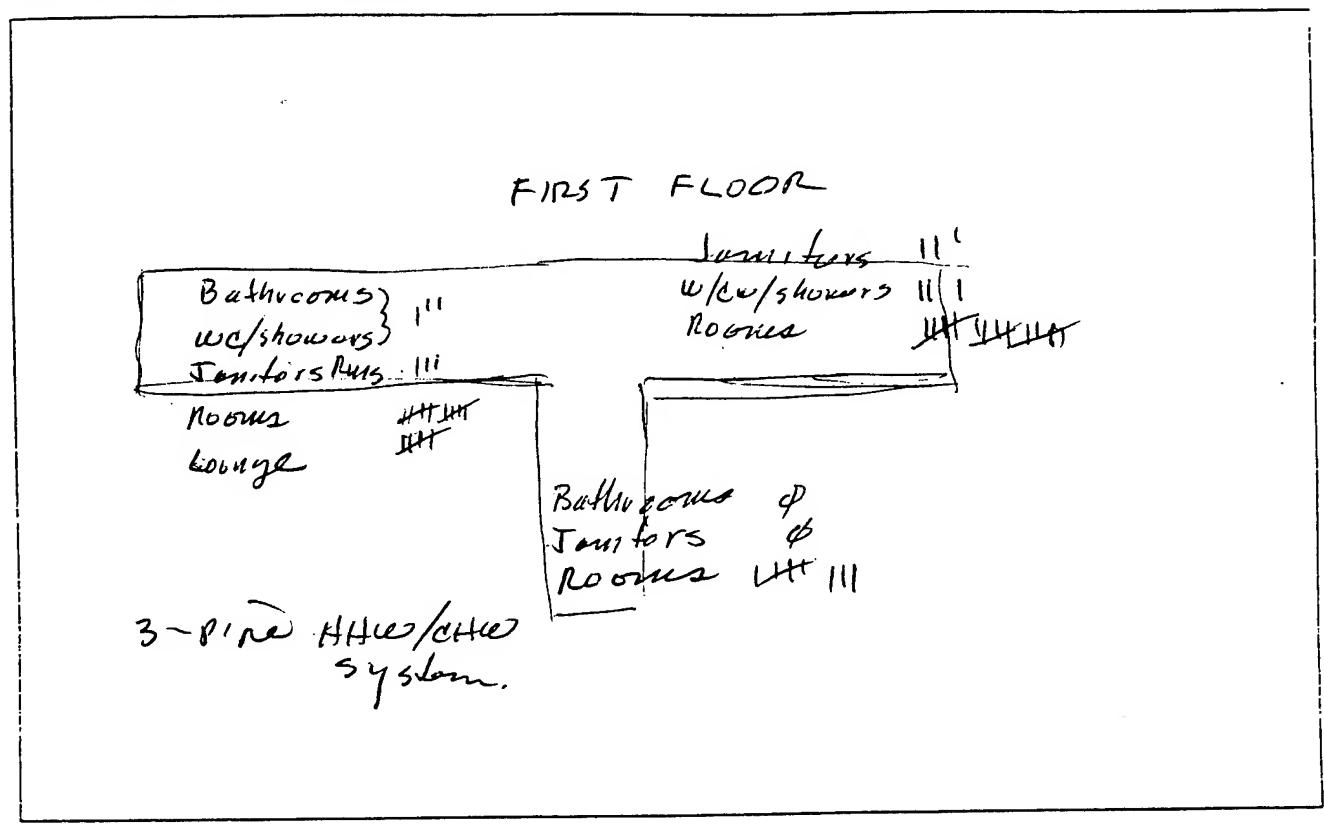
CRAWL SPACE: VENTILATED ☐ EXHAUSTED ☒ 509

ATTIC: VENTILATED ☐ EXHAUSTED ☐ Done

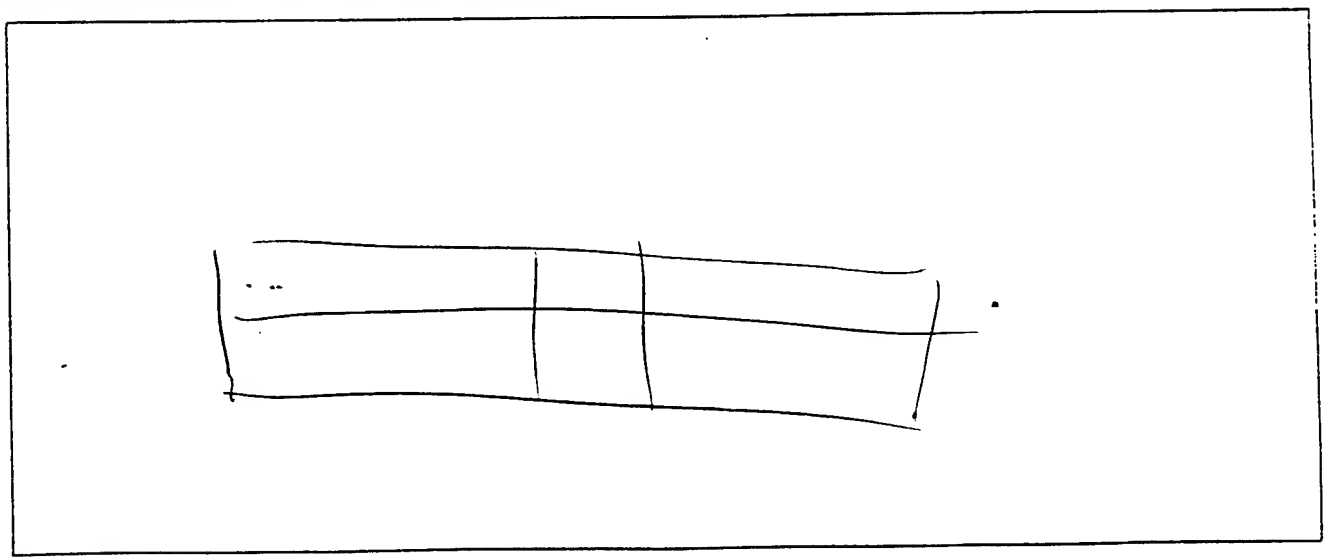
ARCHITECTURE--MISCELLANEOUS

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



### 2.3

BLDG. NO.

$$\begin{array}{r} 712 \\ 295 \end{array}$$

Refer to building Plans for window location & size

[illegible]

LEGEND:

\*\*\*VISIBILITY:

\*\*\*SHADING:

**\*\*FRAME:**

**\*GLAZING:**

**WINDOW TYPES:**

1 - DOUBLE HUNG  
2 - SINGLE HUNG  
3 - SLIDING  
4 - CASEMENT  
5 - LOUVERED  
6 - FIXED GLASS

**E - AWNING**  
**F - SOLAR SCREEN**  
**G - OVERHANG**  
**OTHER - SPECIFY**

A - SOLAR FILM  
B - VEN BLIND  
C - STORM WINDOW  
D - DRAPES

W - WOOD  
M - METAL  
T - METAL/THERMAL BREAK

1 - ORDINARY  
2 - 1/4" PLATE  
3 - HEAT ABSORBING  
4 - TINTED

## ARCHITECTURAL WINDOWS & DOORS

2.4 BUILDING ENVELOPE

LOCATION FHL  
BLDG. NO. 295

CONSTRUCTION

WALL CMU COLOR: D ☐ M ☐ L ☒

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.25
CMU	8"	1.72
INSIDE FILM		0.68
TOTAL		

U-FACTOR 0.38 AREA 2.65

TYPE: F ☐ P ☐  
COLOR: D ☐ M ☐ L ☐

ROOF (INCL. CLG.)

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.25
BG UP ROOF		0.33
3" BATT		11.0
5" Cat. 2.13		2.0
1.A.	0.6	0.61
INSIDE FILM		
TOTAL		14.19

U-FACTOR 0.07 AREA

FLOOR 506 LINO & CARPET IN ROOMS DOOR WOOD - no lights

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

BUILDING SKIRTING MATERIAL none

## 3.1 HEATING EQUIPMENT

LOCATION FH  
BLDG. NO. 295

Heat Source:

☐ Furnace ☐ Steam Boiler ☒ Hot Water Boiler ☐ Heat Pump ☐ Supplied Steam or Hot Water (External Boiler Plant) ☐ Other \_\_\_\_\_Capacity: 2600 MBtu/Hr <sup>est</sup> or \_\_\_\_\_ Boiler HP or \_\_\_\_\_ Lbs/Hr Steam or \_\_\_\_\_ GPM Hot WaterManufacturer: AX Model No.: WG-3250ABoiler/Furnace Control: ☐ Manual ☐ Time Clock ☒ Demand ☐ EMCS ☐ O<sub>2</sub> TrimOperating Temperature: 170° °F Operating Pressure: \_\_\_\_\_ PSIFuel: ☐ Nat. Gas Only ☐ Nat. Gas/ \_\_\_\_\_Draft: ☐ Forced☒ Other (Specify) PROPANE☐ InducedBurner: Mfg. NA Model No. NA Metering Equipment: ☐ Yes ☐ No

Operating Schedule: Weekdays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day

Weekdays &amp; Holidays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day

Operating Season: From \_\_\_\_\_ Mon/Day, to \_\_\_\_\_ Mon/Day

Flue Gas Temperature: NA °F Receiver Tank Conditions: NA PSIG NA °FIf supplied Steam or Hot Water: Steam Pressure NA PSI Hot Water Supply Temp. NA °F Hot Water Return Temp. NA °F

Insulation: (1) Boiler

(2) Other (Specify) \_\_\_\_\_

Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>None ☒ Temp. \_\_\_\_\_ °FNone ☐ Temp. \_\_\_\_\_ °FPump: No. of Pumps 1 V/PH/FLA 110 / 60 / 12Mfg. BAC Model 150 GPM HP \_\_\_\_\_ RPM \_\_\_\_\_HW Pump Starter: ☐ HOA ☐ Reset P/B ☐ S/S Push Button Interlocked with Boiler? ☐ Yes ☐ No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. \_\_\_\_\_ Model \_\_\_\_\_

Condensate Pumps/Hot Water Pumps: Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_

Boiler/Furnace Condition: \_\_\_\_\_

Describe \_\_\_\_\_

Occupant Discomfort (Evaluate): \_\_\_\_\_

HEATING EQUIPMENT

3.1



# 3.2 COOLING EQUIPMENT

LOCATION FHL  
BLDG. NO. 295

## COMPRESSOR(S)/CHILLER

Manufacturer McQuay  
Model No. AHP 054 CD  
Size 54 BN  
Refrigerant R-22  
Motor HP (if available) -  
Motor Voltage 460/3φ  
Motor FLA 2x 58 (EA)  
Measured Amps 76

## CONDENSER/CONDENSING UNIT

Water Cooled ✓  
Air Cooled -  
Evaporative -  
Manufacturer -  
Model No. -  
Size -  
Type of Fan -  
Fan Motor HP -  
Fan Motor Voltage 460/3φ  
Fan Motor FLA 2 @ 4.5  
Measured Amps -

## COOLING TOWER

Gravity -  
Mech. Draft -  
Manufacturer -  
Model No. -  
Type of Fan NA  
Fan RPM -  
Fan Motor HP -  
Fan Motor Voltage -  
Fan Motor FLA -  
Measured Amps -

## CHILLED WATER PUMPS (If more than one, how many operative during normal operation: -)

Manufacturer Peerless  
Model No. 2x 2 1/2 x 6S  
Capacity Gals. NA  
Head, Ft. NA  
Motor HP 1 1/2  
Motor Voltage NA  
Motor FLA NA  
Measured Amps NA

## CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: -)

Manufacturer -  
Model No. -  
Capacity, Gals. -  
Head, Ft. NA  
Motor HP -  
Motor Voltage -  
Motor FLA -  
Measured Amps -

REMARKS: THERE'S A DEAD CAT STUCK IN THE COILS

COOLING EQUIPMENT

# 3.3 AIR HANDLING EQUIPMENT

LOCATION FH  
BLDG. NO. 295

## FANS

Type	<u>FCU</u>			
Unit/Zone	#	#	#	#
Manufacturer	<u>McQuay</u>			
Model No.	<u>TSC</u>			
Type	<u>FAN COIL</u>			
RPM of Fan	<u>NA</u>			
Motor HP	<u>NA</u>			
Motor Volts	<u>NA</u>			
Motor FLA	<u>NA</u>			
Measured Amps	<u>NA</u>			
CFM (from Plans)	<u>NA</u>			
Notes	<u>NA</u>			
COILS	<u>1ST</u> <u>2ND</u> <u>3RD</u>	<u>40 ZONED</u> <u>40 ZONED</u> <u>40 ZONED</u>		

Indicate capacities where found:

<u>Bathrooms</u>	COOLING	HUMIDIFICATION
	DX	ELEC
	H <sub>2</sub> O <u>Leads for heating connector</u>	OTHER
	OTHER	H <sub>2</sub> O
		OTHER
	HEATING	AUX/MISC OTHER
	GAS	
	H <sub>2</sub> O <u>X</u>	
	ELEC	
	OTHER	

## FILTERS

Type	<u>-</u>		
Condition	<u>ADDITIONAL</u>		
Manometer Reading 1/	<u>-</u>		

1/ Record only if manometer is installed on the unit.

### 3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

LOCATION FHL  
BLDG. NO. 215

- a. Is System Supported from (check one):  
☐ Central Plant  
☒ One System per Building  
☐ Several Small Systems per Building

b. Domestic Hot Water Temperatures provided: \_\_\_\_\_ °F \_\_\_\_\_ °F

c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:

HEAT EXCHANGER

d. Is Piping System Insulated and Condition: \_\_\_\_\_

e. Is Hot Water Circulated? YES

1) Condition of circulator AUT 3) Is aquastat provided? \_\_\_\_\_

2) Circulator capacity 150 GPM @ 60°F 4) Aquastat temperature setting \_\_\_\_\_

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

a. Location	_____	_____	_____
b. Areas Served	_____	_____	_____
c. Manufacturer and Model	_____	_____	_____
d. Energy (Oil, Gas, Electric, Coal, Etc.)	_____	_____	_____
e. Type Heaters & Quantities:			
1) Storage	_____	_____	_____
2) Instantaneous	_____	_____	_____
3) Semi-Instantaneous	_____	_____	_____
f. Heater Size and Storage Capacity	_____	_____	_____
g. Heating Capacity	_____	_____	_____
h. Type Controls (Air, Steam, Electric)	_____	_____	_____
i. When Installed & Condition	_____	_____	_____
j. Heater Temperature Setting	_____	_____	_____
k. Average Water Maintained Temperature	_____	_____	_____
l. Temperature Differential (j) - (k)	_____	_____	_____
m. Is Hot Water Supply Adequate:	_____	_____	_____
n. Insulation Thickness	_____	_____	_____
o. Insulation Material	_____	Type _____	_____

DOMESTIC HOT WATER SYSTEM/EQUIPMENT

### 3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

LOCATION ENR  
BLDG. NO. 295

CONTROL SYSTEM:

CONTROLLERS: ☐ ELECTRIC ☐ PNEUMATIC  
☐ ELECTRONIC

OPERATION: ☒ MANUAL ☐ TIME CLOCK  
☐ CONTINUOUS ☐ EMCS  
☐ DEMAND

MFG \_\_\_\_\_ MODEL \_\_\_\_\_ LOCATION \_\_\_\_\_

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

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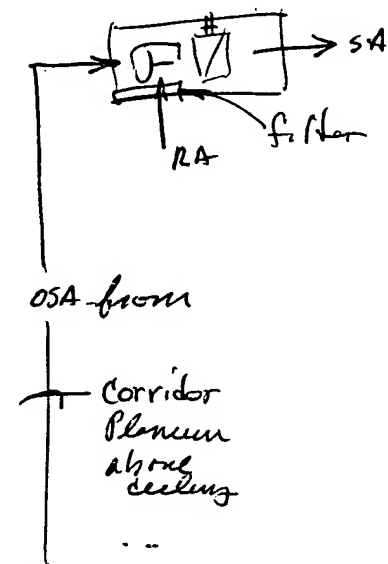
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FCU - min 1/room., larger offices/rooms have 2 in.



coil control for each unit by T-stat  
for speed by reostat-switch  
no time clocks.

louvers at stair wells (3 each floor)  
screens are caked shut - little OSA available.

# Rooms w/  $128^{\circ}\text{F}$   $8 \times 5$   $1$   
 each  
 Rooms w/  $128^{\circ}\text{F}$   $8 \times 5$   $1$   
 each  
 Rooms w/  $128^{\circ}\text{F}$   $8 \times 5$   $1$   
 each

First (Ground Floor) 4 on Unit floor  
 Exit Signs = 2 x FGI-5 SW

4.2.1 Interior Lighting

LOCATION FHL BLDG. 295

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT <sup>2</sup> )	WATTS PER SQ. FT.	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS	FINISH	WINDOW CODE	REMARKS (LIGHTS/SWITCH)
161	S	I 75	1 75	1												
162	S	F 34	2 34	3												
163	R	F 34	2 34	7												
164																
165																
166	R	F 34	2 34	20												
167	R	F 34	2 34	1												
168	S	F 34	1 34	1												
169	S	F 34	2 34	1												
170	S	F 34	2 34	8												
171	S	F 34	4 34	1												
TOTAL BUILDING LIGHTING ENERGY																

SWAP

- Fixture Types:
- Recessed = R
  - Suspended = S
  - Ventilated = V
  - Pole Mounted = PM
  - Other--Describe
- Lamp Types:
- Incandescent = I
  - Fluorescent = F
  - Sodium Vapor = SV
  - Mercury Vapor = MV
  - Metal Halide = MH
  - Other--Describe
- Window Code:
- If there are windows, indicate:
  - Curtains = C
  - Shades = S
  - No Shading = NS
- Tasks Code:
- 1 = Corridors
  - 2 = Kitchens
  - 3 = Dining
  - 4 = Offices-general
  - 5 = Offices-bookkeeping (ledgers only)
  - 6 = Offices-drafting
  - 7 = Laundry
  - 8 = Toilets
  - 9 = Sleeping quarters
  - 10 = Supply rooms
  - 11 = Repair shops
  - 12 = Storage room
  - 13 = Retail store (PX, commissary)
  - Other (describe on audit form)
  - E = Exterior

4.2.1 Interior Lighting

LOCATION FHL BLDG. 295

I II

240 P2

III

LIGHTING

ORP RM

R F 2/35 8 560

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/ DAY ON	DAYS/ YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT <sup>2</sup> )	WATTS PER SQ. FT.	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS	FINISH	WINDOW CODE	REMARKS (LIGHTS/SWITCH)
II	R	F	2/35	10	700						5	7'-4"	C E I L L I N G	F L L O O R		
I	R	F	2/35	10	700						5	7'-4"				
III	R	F	2/35	8	560						5	7'-4"				
II	R	F	2/35	10	560							8'				
I	R	F	2/35	15	525							8'				
III	R	F	2/35	10	560							8'				
II	R	F	2/35	3	210											
I	R	F	2/35	3	210											
III	R	F	4/35	1	140											
II	S	I	1/60	3	180											
I	S	I	1/60	3	180											
TOTAL BUILDING LIGHTING ENERGY																

II 4 1 60 3 180

LIGHTING LEGEND:

- Window Code: If there are windows, indicate: Curtains = C Shades = S No Shading = NS
- Lamp Types: Incandescent = I Fluorescent = F Sodium Vapor = SV Mercury Vapor = MV Metal Halide = MH Other--Describe
- Tasks Code: 1 = Corridors 2 = Kitchens 3 = Dining 4 = Offices-general 5 = Offices-bookkeeping (ledgers only) 6 = Offices-drafting 7 = Laundry 8 = Toilets 9 = Sleeping quarters 10 = Supply rooms 11 = Repair shops 12 = Storage room 13 = Retail store (PX, commissary) Other (describe on audit form) E = Exterior

LIGHTING 4.2.1

## 2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION RHL SURVEYED BY RCL/BH/RJB DATE 20 OCT 92  
 BUILDING NUMBER 301 FUNCTION/USE Test & Computer Division  
 INFORMATION SOURCE (DWG. NO./PERSON) PFEIL / AS-BUILT DWGS.

### GENERAL BUILDING DATA

BUILDING AGE: \_\_\_\_\_ YEARS

DUPLICATE BUILDING NOS: None

TOTAL: \_\_\_\_\_

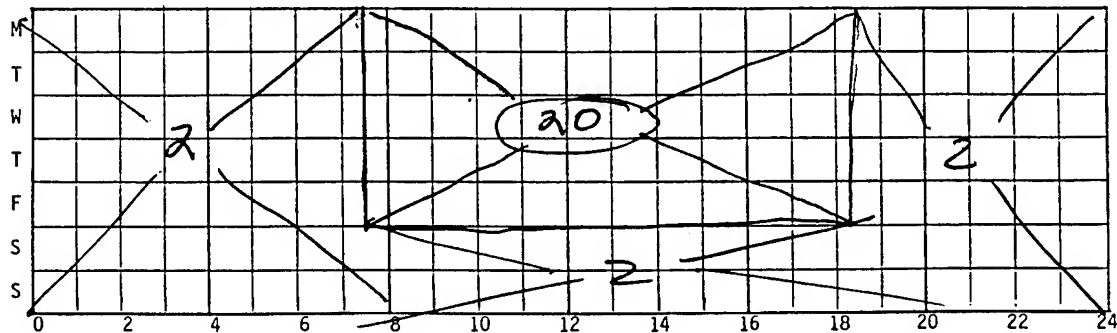
SIMILAR BUILDING NOS: None

TOTAL: \_\_\_\_\_

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) ☒

NO. OF OCCUPANTS \_\_\_\_\_

Indicate (number and) duration of occupants each day



MISCELLANEOUS EQUIPMENT: \_\_\_\_\_

ADDITIONAL COMMENTS, CRITICAL LOADS: \_\_\_\_\_

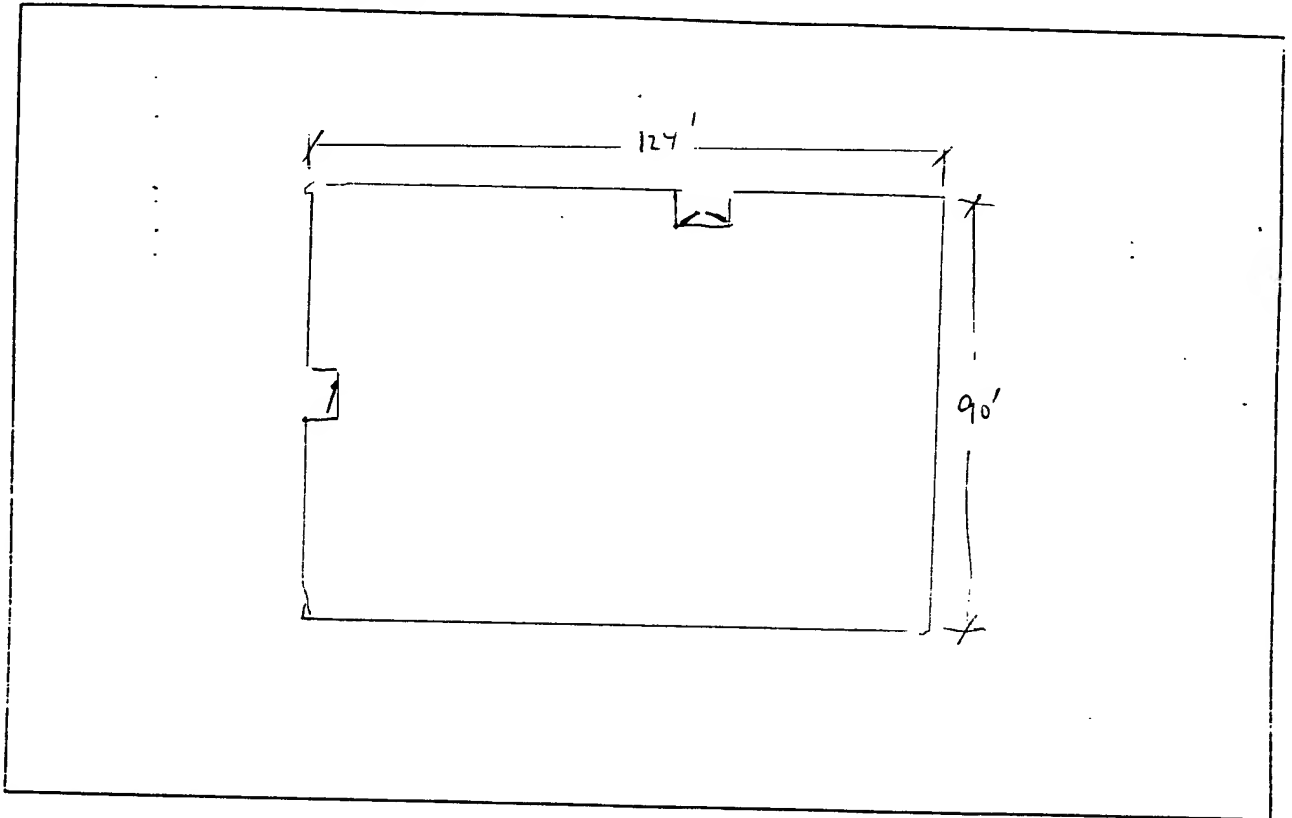
CRAWL SPACE: VENTILATED ☐ EXHAUSTED ☐

ATTIC: VENTILATED ☐ EXHAUSTED ☐

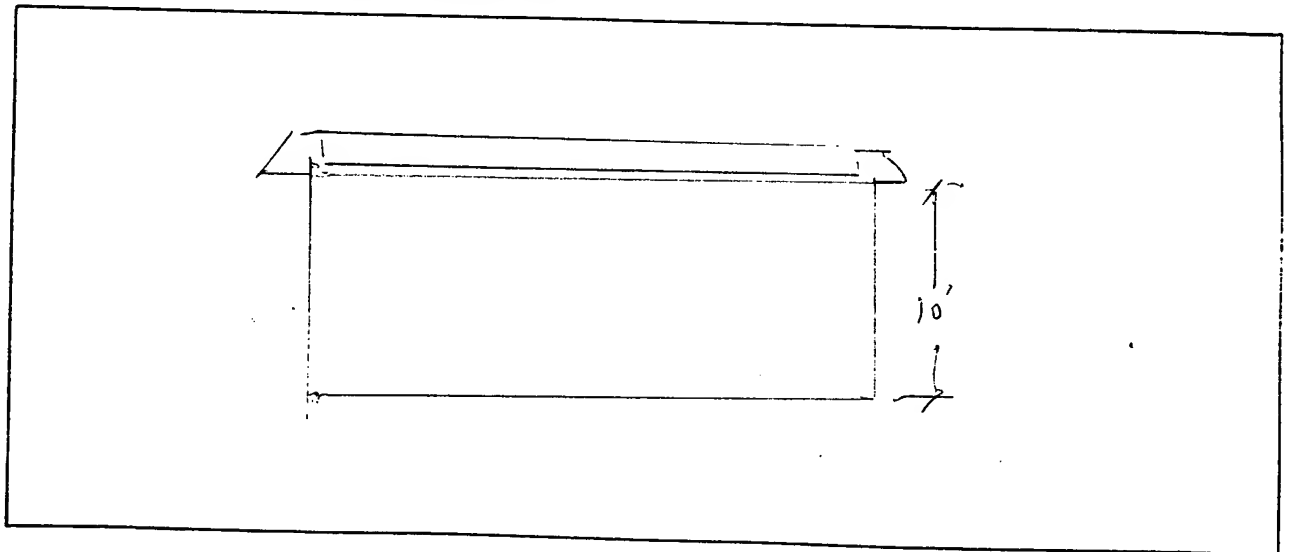
2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

LOCATION FHL  
BLDG. NO. 301

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



BUILDING FLOOR PLAN AND  
ELEVATION SKETCHES



L E G E N D :			
*GLAZING:	**FRAME:	***SHADING:	***VISIBILITY:
1 - ORDINARY	W - WOOD	A - SOLAR FILM	E - AWNING
2 - 1/4" PLATE	M - METAL	B - VEN BLIND	F - SOLAR SCREEN
3 - HEAT ABSORBING	T - METAL/THERMAL BREAK	C - STORM WINDOW	G - OVERHANG
4 - TINTED		D - DRAPES	OTHER - SPECIFY
			WINDOW TYPES:
			1 - DOUBLE HUNG
			2 - SINGLE HUNG
			3 - SLIDING
			4 - CASEMENT
			5 - LOUVERED
			6 - FIXED GLASS

# 2.4 BUILDING ENVELOPE

LOCATION FHL  
BLDG. NO. 301

## CONSTRUCTION

WALL  COLOR: D ☐ M ☐ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.25
STUCCO		0.09
8" CMU		4.72
6" BATT		19
5/8" GYP		0.32
INSIDE FILM		0.68
TOTAL		25

U-FACTOR 0.04 AREA

FLOOR SOG

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
NA		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

BUILDING SKIRTING MATERIAL

## ROOF (INCL. CLG.)

TYPE: F ☐ P ☐  
COLOR: D ☐ M ☐ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.25
PER UP ROOF		0.33
STEEL DECK		-
ADDITIONAL SPAC		1.03
6" BATT		19
5/8" GYP		0.32
INSIDE FILM		0.68
TOTAL		21.6

U-FACTOR 0.046 AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
NA		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

# 3.1 HEATING EQUIPMENT

LOCATION FHC  
BLDG. NO. 301

Heat Source:

☐ Furnace ☐ Steam Boiler ☐ Hot Water Boiler ☐ Heat Pump ☐ Supplied Steam or Hot Water (External Boiler Plant) ☐ Other \_\_\_\_\_

Capacity: 250 MBtu/Hr or \_\_\_\_\_ Boiler HP or \_\_\_\_\_ Lbs/Hr Steam or \_\_\_\_\_ GPM Hot Water

Manufacturer: Eaton Model No.: 420033

Boiler/Furnace Control: ☐ Manual ☒ Time Clock ☐ Demand ☐ EMCS ☐ O<sub>2</sub> Trim

Operating Temperature: 140° °F Operating Pressure: \_\_\_\_\_ PSI

Fuel: ☐ Nat. Gas Only ☐ Nat. Gas/ \_\_\_\_\_ Draft: ☐ Forced ☒ Induced  
☒ Other (Specify) PROPANE

Burner: Mfg. Eaton Model No. \_\_\_\_\_ Metering Equipment: ☐ Yes ☐ No

Operating Schedule: Weekdays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day  
Weekdays & Holidays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day  
Operating Season: From \_\_\_\_\_ Mon/Day, to \_\_\_\_\_ Mon/Day

Flue Gas Temperature: \_\_\_\_\_ °F Receiver Tank Conditions: \_\_\_\_\_ PSIG \_\_\_\_\_ °F

If supplied Steam or Hot Water: Steam Pressure \_\_\_\_\_ PSI Hot Water Supply Temp. \_\_\_\_\_ °F Hot Water Return Temp. \_\_\_\_\_ °F

Insulation: (1) Boiler (2) Other (Specify) \_\_\_\_\_  
Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup> Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>  
None ☐ Temp. \_\_\_\_\_ °F None ☐ Temp. \_\_\_\_\_ °F

Pump: No. of Pumps \_\_\_\_\_ V/PH/FLA \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_ RPM \_\_\_\_\_  
HW Pump Starter: ☐ HOA ☐ Reset P/B ☐ S/S Push Button Interlocked with Boiler? ☐ Yes ☐ No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. \_\_\_\_\_ Model \_\_\_\_\_

Condensate Pumps/Hot Water Pumps: Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_

Boiler/Furnace Condition: NA

Describe \_\_\_\_\_

Occupant Discomfort (Evaluate): \_\_\_\_\_

HEATING EQUIPMENT

3.2 COOLING EQUIPMENTLOCATION F14L  
BLDG. NO. 301

CONDENSER

COMPRESSOR(S)/CHILLER/SOR ROOFTOP UNIT

Manufacturer TRANE

Model No. TRAC RB24-A

Size \_\_\_\_\_

Refrigerant R-22

Motor HP (if available) \_\_\_\_\_

Motor Voltage 460/3φ

Motor FLA 10.7

Measured Amps \_\_\_\_\_

CONDENSER/CONDENSING UNIT

Water Cooled \_\_\_\_\_

Air Cooled ✓

Evaporative \_\_\_\_\_

Manufacturer \_\_\_\_\_

Model No. \_\_\_\_\_

Size \_\_\_\_\_

Type of Fan \_\_\_\_\_

Fan Motor HP 2 e 1/2 HP

Fan Motor Voltage 460V/3φ

Fan Motor FLA 2.0

Measured Amps \_\_\_\_\_

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_

Model No. \_\_\_\_\_

Capacity, Gals. \_\_\_\_\_

Head, Ft. \_\_\_\_\_

Motor HP \_\_\_\_\_

Motor Voltage \_\_\_\_\_

Motor FLA \_\_\_\_\_

Measured Amps \_\_\_\_\_

COOLING TOWER

Gravity \_\_\_\_\_

Mech. Draft \_\_\_\_\_

Manufacturer \_\_\_\_\_

Model No. \_\_\_\_\_

Type of Fan \_\_\_\_\_

Fan RPM \_\_\_\_\_

Fan Motor HP \_\_\_\_\_

Fan Motor Voltage \_\_\_\_\_

Fan Motor FLA \_\_\_\_\_

Measured Amps \_\_\_\_\_

CHILLED WATER PUMPS (If more than one, how many operate during normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_

Model No. \_\_\_\_\_

Capacity Gals. \_\_\_\_\_

Head, Ft. \_\_\_\_\_

Motor HP \_\_\_\_\_

Motor Voltage \_\_\_\_\_

Motor FLA \_\_\_\_\_

Measured Amps \_\_\_\_\_

REMARKS: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

COOLING EQUIPMENT

### 3.3 AIR HANDLING EQUIPMENT

LOCATION FHL  
BLDG. NO. 321

#### FANS

Type	<u>BLUETOP</u>	<u>CRAZ (TYP OF 4)</u>	<u>CRAC</u>
Unit/Zone	<u>#</u>	<u>#</u>	<u>#</u>
Manufacturer	<u>TRANE</u>	<u>DATA ARENA</u>	<u>CONTEMPO ENGR. CO</u>
Model No.	<u>BACH B15613</u>	<u>DAAD-2034</u>	
Type	<u>BLUETOP</u>	<u>COMP UNIT</u>	
RPM of Fan	<u>-</u>	<u>-</u>	
Motor HP	<u>1.5</u>	<u>5</u>	<u>2e 3HP</u>
Motor Volts	<u>208</u>	<u>460</u>	<u>460</u>
Motor FLA	<u>5.7</u>	<u>6.6</u>	<u>2e 4.0</u>
Measured Amps	<u>-</u>	<u>-</u>	
CFM (from Plans)	<u>-</u>	<u>-</u>	
Notes	<u>-</u>	<u>-</u>	

#### COILS

Indicate capacities where found:

##### COOLING

DX X  
H<sub>2</sub>O \_\_\_\_\_  
OTHER \_\_\_\_\_

##### HUMIDIFICATION

ELEC \_\_\_\_\_  
STEAM \_\_\_\_\_  
H<sub>2</sub>O \_\_\_\_\_  
OTHER \_\_\_\_\_

##### HEATING

GAS \_\_\_\_\_  
H<sub>2</sub>O \_\_\_\_\_  
ELEC X REHEAT  
OTHER 2e 22.5kW  
3e 12kW

##### AUX/MISC OTHER

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

#### FILTERS

Type \_\_\_\_\_  
Condition X DEGRATE  
Manometer Reading 1/ \_\_\_\_\_

1/ Record only if manometer is installed on the unit.

↓ DISCONNECT SWITCH ON AC #5

AIR HANDLING EQUIPMENT

# 3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

LOCATION FHL  
BLDG. NO. 321

- a. Is System Supported from (check one): ☐ Central Plant ☒ One System per Building  
☐ Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: 110 °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:  
3/4 50 FT
- d. Is Piping System Insulated and Condition: Yes
- e. Is Hot Water Circulated? 1b
- 1) Condition of circulator \_\_\_\_\_ 3) Is aquastat provided? \_\_\_\_\_  
2) Circulator capacity \_\_\_\_\_ 4) Aquastat temperature setting \_\_\_\_\_

## DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- |  |                     |      |  |
|--|---------------------|------|--|
| a. Location                                | <u>Mech.</u>        |      |  |
| b. Areas Served                            | <u>All</u>          |      |  |
| c. Manufacturer and Model                  | <u>AM APPLIANCE</u> |      |  |
| d. Energy (Oil, Gas, Electric, Coal, Etc.) | <u>ELC</u>          |      |  |
| e. Type Heaters & Quantities:              |                     |      |  |
| 1) Storage                                 | <u>6000</u>         |      |  |
| 2) Instantaneous                           | <u>-</u>            |      |  |
| 3) Semi-Instantaneous                      | <u>-</u>            |      |  |
| f. Heater Size and Storage Capacity        | <u>1500 W</u>       |      |  |
| g. Heating Capacity                        | <u>-</u>            |      |  |
| h. Type Controls (Air, Steam, Electric)    | <u>-</u>            |      |  |
| i. When Installed & Condition              | <u>-</u>            |      |  |
| j. Heater Temperature Setting              | <u>-</u>            |      |  |
| k. Average Water Maintained Temperature    | <u>-</u>            |      |  |
| l. Temperature Differential (j) - (k)      | <u>-</u>            |      |  |
| m. Is Hot Water Supply Adequate:           | <u>-</u>            |      |  |
| n. Insulation Thickness                    | <u>-</u>            | Type |  |
| o. Insulation Material                     | <u>-</u>            |      |  |

DOMESTIC HOT WATER SYSTEM/EQUIPMENT

LOCATION FHL  
BLDG. NO. 321

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

CONTROL SYSTEM:

CONTROLLERS: ☐ ELECTRIC ☐ PNEUMATIC  
☐ ELECTRONIC

OPERATION: ☒ MANUAL ☐ TIME CLOCK  
☐ CONTINUOUS ☐ EMCS  
☐ DEMAND

MFG                      MODEL                      LOCATION                     

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

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CONTROL/MISCELLANEOUS PROCESS/SKETCHES

#### 4.2.1 Interior Lighting

## LOCATION

## LOCATION

301

**TOTAL BUILDING  
LIGHTING ENERGY**

LIGHTING LEGEND:

**Lamp Types:**

Incandescent = I  
Fluorescent = F  
Sodium Vapor = SV  
Mercury Vapor = MV  
Metal Halide = MH  
Other--Describe

**Window Code:**

If there are windows, indicate:

Curtains = C  
Shades = S  
No Shading = NS

**Tasks Code:**

1 = Corridors  
2 = Kitchens  
3 = Dining  
4 = Offices-general  
5 = Offices-bookkeeping (ledgers only)  
6 = Offices-drafting  
7 = Laundry  
8 = Toilets  
9 = Stenotyping quarters  
10 = Supply rooms  
11 = Repair shops  
12 = Storage room  
13 = Retail store (PX, commissary)  
Other (describe on audit form)  
E = Exterior



LIGHTING

LOCATION Phk BLDG. 201

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/ DAY ON	DAYS/ YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT <sup>2</sup> )	WATTS PER SQ. FT. (W/FT <sup>2</sup> )	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS	FINISH	WINDOW CODE	REMARKS (LIGHTS/SWITCH)
1	R	F34	4	13							25	9'				
1	R	F34	6	1												
4	R	F34	4	2												
4	R	F34	4	6												
4	R	F34	4	6												
4	R	F34	4	4												
4	R	F34	4	40												
12	R	F34	4	6												
12	S	F34	2	3												
1	R	F34	4	6												
4	R	F34	4	20							50	V				
TOTAL BUILDING LIGHTING ENERGY																

4 EN  
100  
500

LIGHTING LEGEND:

Fixture Types:  
Recessed = R  
Suspended = S  
Ventilated = V  
Pole Mounted = PM  
Other--Describe

Lamp Types:  
Incandescent = I  
Fluorescent = F  
Sodium Vapor = SV  
Mercury Vapor = MV  
Metal Halide = MH  
Other--Describe

Window Code:  
If there are windows, indicate:  
Curtains = C  
Shades = S  
No Shading = NS

Tasks Code:  
1 = Corridors  
2 = Kitchens  
3 = Dining  
4 = Offices-general  
5 = Offices-bookkeeping (ledgers only)  
6 = Offices-drafting  
7 = Laundry  
8 = Toilets  
9 = Sleeping quarters  
10 = Supply rooms  
11 = Repair shops  
12 = Storage room  
13 = Retail store (PX, commissary)  
Other (describe on audit form)  
E = Exterior

LOCATION Flr  
BLDG. NO. 301

4.2 LIGHTING (continued)

4.2.2 Exterior Lighting

ACTUAL NO. OF FIXTURES	TYPE OF FIXTURE	NO. OF FIXTURES IN USE	WATTS/ FIXTURE	TOTAL WATTS	CONTROL TYPE*	REMARKS
<u>6</u>	<u>S</u>	<u>6</u>	<u>100</u>	<u>600</u>		

\* M = Manual T = Timer P = Photocell Enter schedule under Remarks.

CALCULATIONS

WATTS OF INTERIOR LIGHTING

Actual at time of survey \_\_\_\_\_

Total installed NA \_\_\_\_\_

WATTS OF EXTERIOR LIGHTING

Actual on at time of survey \_\_\_\_\_

Total installed \_\_\_\_\_

LIGHTING-EXTERIOR

LOCATION Etc  
BLDG. NO. 301

#### 4.3 POWER USAGE SURVEY

##### 4.3.1 CRITICAL LOAD (Computer, Communications)

Describe: Computer room  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4.3.2 RECEPTACLES IN USE 80 PERCENT

##### 4.3.3 SMALL APPLIANCES IN USE (ENTER COUNT)

Water Cooler \_\_\_\_\_

Vending Machine \_\_\_\_\_

Space Heater \_\_\_\_\_

Coffee Pot \_\_\_\_\_

TV \_\_\_\_\_

XEROX \_\_\_\_\_

Other:

Office Equip  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

POWER USAGE SURVEY

4.3

## 2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHL SURVEYED BY RJB/BH DATE 2 OCT 92

BUILDING NUMBER T-325 FUNCTION/USE STORAGE

INFORMATION SOURCE (DWG. NO./PERSON) Inspection

### GENERAL BUILDING DATA

BUILDING AGE: \_\_\_\_\_ YEARS *old & run-down*

DUPLICATE BUILDING NOS: \_\_\_\_\_

TOTAL:

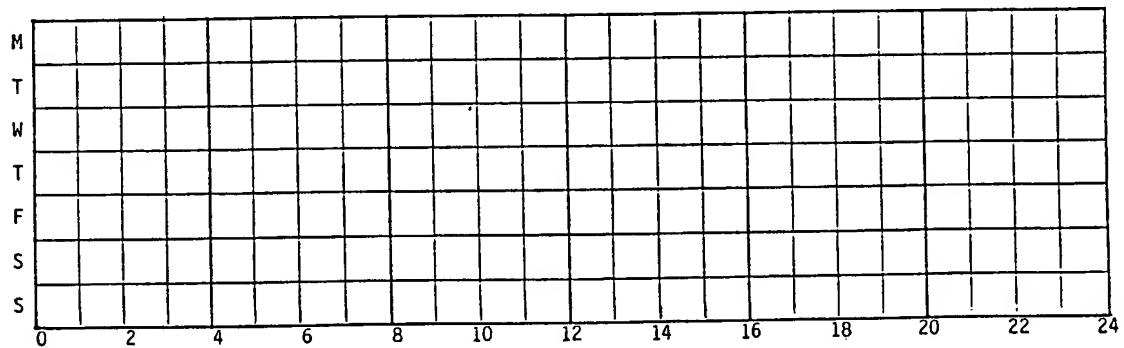
SIMILAR BUILDING NOS: \_\_\_\_\_

TOTAL:

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) ☐ NO. OF OCCUPANTS \_\_\_\_\_

Indicate (number and) duration of occupants each day

4-6 hrs / week -  
infrequent



MISCELLANEOUS EQUIPMENT: \_\_\_\_\_

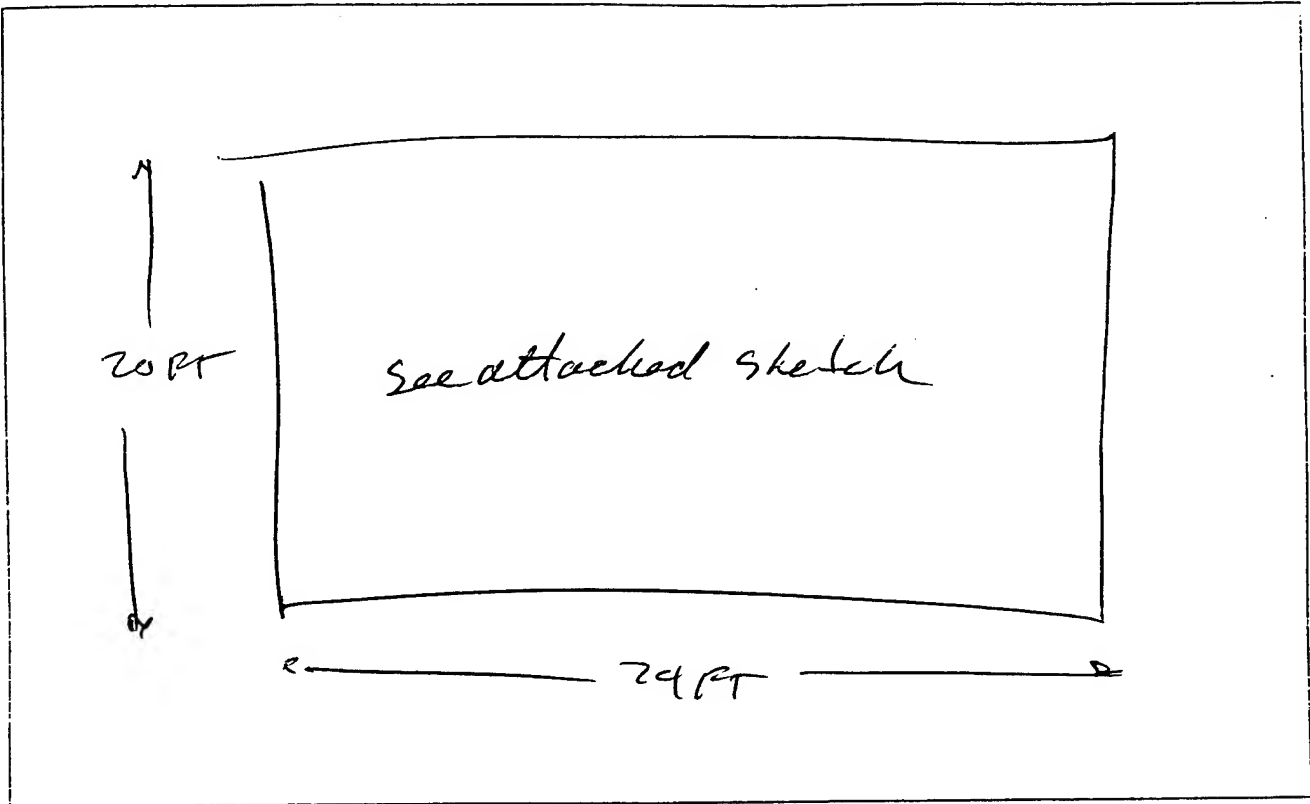
ADDITIONAL COMMENTS, CRITICAL LOADS: \_\_\_\_\_

CRAWL SPACE: VENTILATED ☐ EXHAUSTED ☐ 506

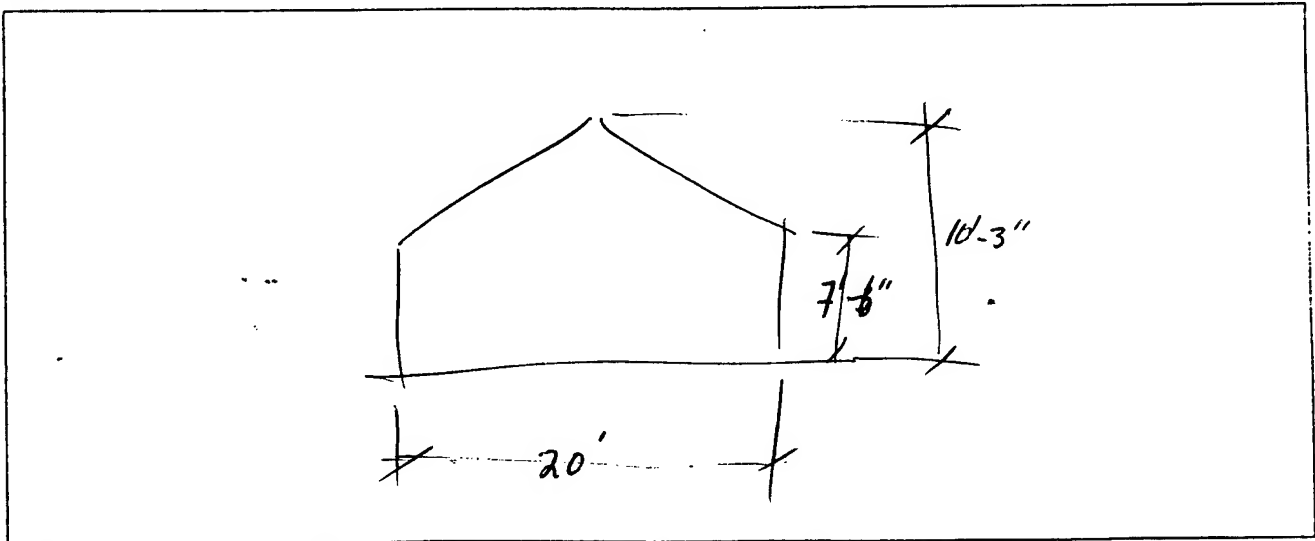
ATTIC: VENTILATED ☐ EXHAUSTED ☐ *none*

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



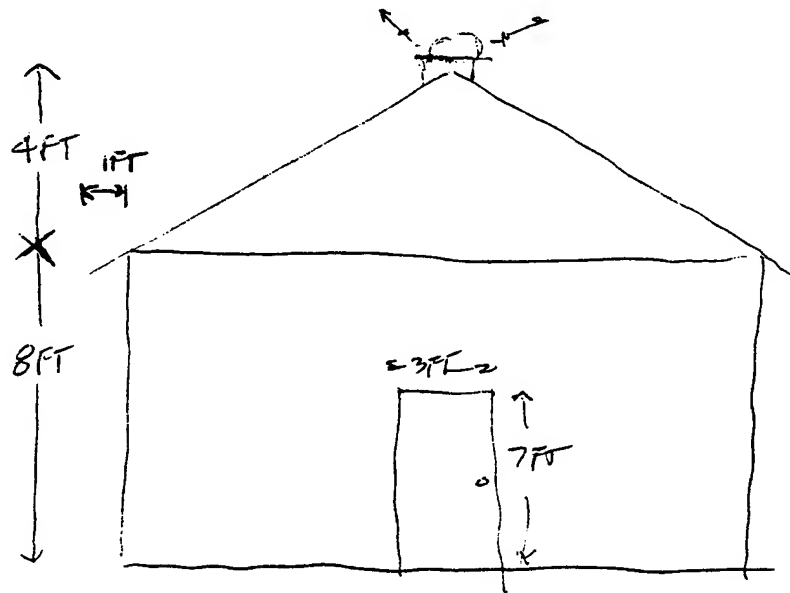
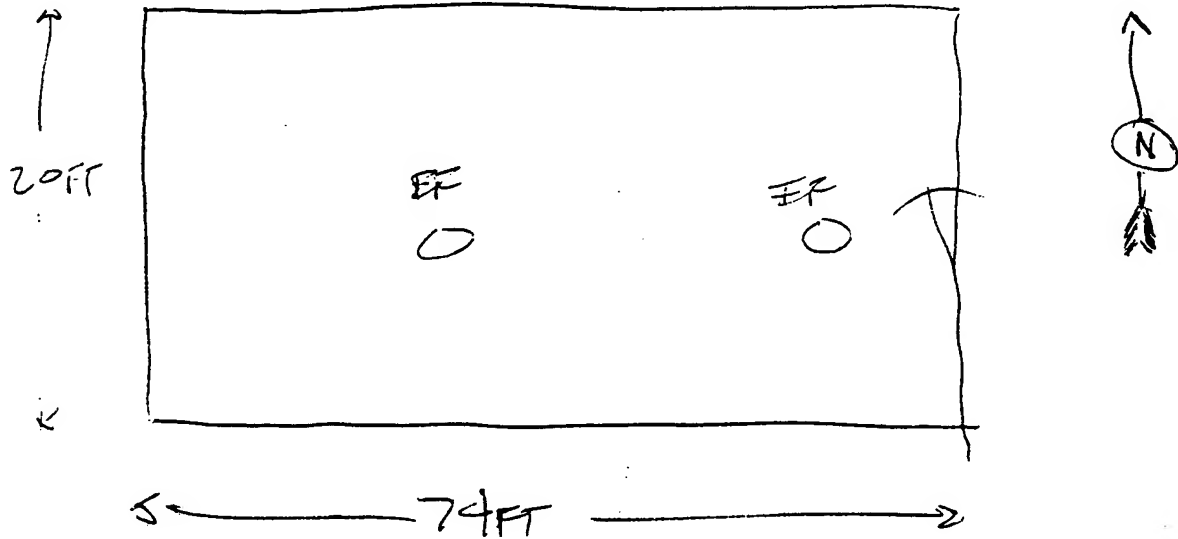
SOUTH ELEVATION (Show floor to ceiling elevations)



BUILDING FLOOR PLAN AND  
ELEVATION SKETCHES

CORROUGATED STEEL SHED

BLDG 325



U-VALUE	TOTAL AREA

*GLAZING:	**FRAME:	***SHADING:	***VISIBILITY:	WINDOW TYPES:	
1 - ORDINARY	W - WOOD	A - SOLAR FILM	E - AWNING	1 - DOUBLE HUNG	4 - CASEMENT
2 - 1" PLATE	M - METAL	B - VEN BLIND	F - SOLAR SCREEN	2 - SINGLE HUNG	5 - LOUVERED
3 - HEAT ABSORBING	T - METAL/THERMAL BREAK	C - STORM WINDOW	G - OVERHANG	3 - SLIDING	6 - FIXED GLASS
4 - TINTED		D - DRAPES	OTHER - SPECIFY		

• 2.4 BUILDING ENVELOPE

LOCATION Fin  
BLDG. NO. 325

CONSTRUCTION

WALL  COLOR: D ☐ M ☐ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
<i>Corr Metal</i>		<i>0</i>
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

ROOF (INCL. CLG.)

TYPE: F ☐ P ☐  
COLOR: D ☐ M ☐ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
<i>Corr Metal</i>		<i>0</i>
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

FLOOR SOA

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

DOOR WOOD

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
<i>WOOD</i>	<i>1 5/8</i>	
INSIDE FILM		
TOTAL		

U-FACTOR  AREA

BUILDING SKIRTING MATERIAL



3.1 HEATING EQUIPMENT

LOCATION PH  
BLDG. NO. 325

*no heating equip*

Heat Source:

☐ Furnace ☐ Steam Boiler ☐ Hot Water Boiler ☐ Heat Pump ☐ Supplied Steam or Hot Water (External Boiler Plant) ☐ Other \_\_\_\_\_

Capacity: \_\_\_\_\_ Btu/Hr or \_\_\_\_\_ Boiler HP or \_\_\_\_\_ Lbs/Hr Steam or \_\_\_\_\_ GPM Hot Water

Manufacturer: \_\_\_\_\_ Model No.: \_\_\_\_\_

Boiler/Furnace Control: ☐ Manual ☐ Time Clock ☐ Demand ☐ EMCS ☐ O<sub>2</sub> Trim

Operating Temperature: \_\_\_\_\_ °F Operating Pressure: \_\_\_\_\_ PSI

Fuel: ☐ Nat. Gas Only ☐ Nat. Gas/ \_\_\_\_\_ Draft: ☐ Forced ☐ Induced  
☐ Other (Specify) \_\_\_\_\_

Burner: Mfg. \_\_\_\_\_ Model No. \_\_\_\_\_ Metering Equipment: ☐ Yes ☐ No

Operating Schedule: Weekdays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

Weekdays & Holidays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day \_\_\_\_\_

Operating Season: From \_\_\_\_\_ Mon/Day, to \_\_\_\_\_ Mon/Day

Flue Gas Temperature: \_\_\_\_\_ °F Receiver Tank Conditions: \_\_\_\_\_ PSIG \_\_\_\_\_ °F

If supplied Steam or Hot Water: Steam Pressure \_\_\_\_\_ PSI Hot Water Supply Temp. \_\_\_\_\_ °F Hot Water Return Temp. \_\_\_\_\_ °F

Insulation: (1) Boiler (2) Other (Specify) \_\_\_\_\_

Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup> Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>  
None ☐ Temp. \_\_\_\_\_ °F None ☐ Temp. \_\_\_\_\_ °F

Pump: No. of Pumps \_\_\_\_\_ V/PH/FLA \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_ RPM \_\_\_\_\_

HW Pump Starter: ☐ HOA ☐ Reset P/B ☐ S/S Push Button Interlocked with Boiler? ☐ Yes ☐ No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. \_\_\_\_\_ Model \_\_\_\_\_

Condensate Pumps/Hot Water Pumps: Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_

Boiler/Furnace Condition: \_\_\_\_\_

Describe \_\_\_\_\_

Occupant Discomfort (Evaluate): \_\_\_\_\_

HEATING EQUIPMENT

LOCATION  
BLDG. NO.

File  
325

3.2 COOLING EQUIPMENT

COMPRESSOR(S)/CHILLER

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Size \_\_\_\_\_  
Refrigerant \_\_\_\_\_  
Motor HP (if available) \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

CONDENSER/CONDENSING UNIT

Water Cooled \_\_\_\_\_  
Air Cooled \_\_\_\_\_  
Evaporative \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Size \_\_\_\_\_  
Type of Fan \_\_\_\_\_  
Fan Motor HP \_\_\_\_\_  
Fan Motor Voltage \_\_\_\_\_  
Fan Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

COOLING TOWER

Gravity \_\_\_\_\_  
Mech. Draft \_\_\_\_\_  
Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Type of Fan \_\_\_\_\_  
Fan RPM \_\_\_\_\_  
Fan Motor HP \_\_\_\_\_  
Fan Motor Voltage \_\_\_\_\_  
Fan Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

CHILLED WATER PUMPS (If more than one, how many  
operative during normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: \_\_\_\_\_)

Manufacturer \_\_\_\_\_  
Model No. \_\_\_\_\_  
Capacity, Gals. \_\_\_\_\_  
Head, Ft. \_\_\_\_\_  
Motor HP \_\_\_\_\_  
Motor Voltage \_\_\_\_\_  
Motor FLA \_\_\_\_\_  
Measured Amps \_\_\_\_\_

REMARKS: Evaporative Cooler 42x36x42 high.  
Water not connected

COOLING EQUIPMENT

## FANS

Type

Unit/Zone

Manufacturer

Model No.

Type

RPM of Fan

Motor HP

Motor Volts

Motor FLA

Measured Amps

CFM (from Plans)

Notes

Exhaust - Roof - Ventilators

#	#	#	#
	<u>NA</u>		
	<u>NA</u>		
	<u>Propeller</u>		
	<u>1/12</u>	<u>1/12</u>	
	<u>120</u>	<u>120</u>	

## COILS

Indicate capacities where found:

COOLING

DX

H<sub>2</sub>O

OTHER

HEATING

GAS

H<sub>2</sub>O

ELEC

OTHER

HUMIDIFICATION

ELEC

STEAM

H<sub>2</sub>O

OTHER

AUX/MISC OTHER

## FILTERS

Type

Condition

Manometer Reading 1/1/ Record only if manometer is installed on the unit.

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

LOCATION Fth  
BLDG. NO. 325

None

a. Is System Supported from (check one):

☐

Central Plant

☐

One System per Building

☐

Several Small Systems per Building

b. Domestic Hot Water Temperatures provided:

°F

°F

c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:

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d. Is Piping System Insulated and Condition:

e. Is Hot Water Circulated?

1) Condition of circulator

3) Is aquastat provided?

2) Circulator capacity

4) Aquastat temperature setting

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

a. Location

b. Areas Served

c. Manufacturer and Model

d. Energy (Oil, Gas, Electric, Coal, Etc.)

e. Type Heaters & Quantities:

1) Storage

2) Instantaneous

3) Semi-Instantaneous

f. Heater Size and Storage Capacity

g. Heating Capacity

h. Type Controls (Air, Steam, Electric)

i. When Installed & Condition

j. Heater Temperature Setting

k. Average Water Maintained Temperature

l. Temperature Differential (j) - (k)

m. Is Hot Water Supply Adequate:

n. Insulation Thickness

o. Insulation Material

Type

DOMESTIC HOT WATER SYSTEM/EQUIPMENT

LOCATION Fm  
BLOG. NO. 325

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

*None*

CONTROL SYSTEM:

CONTROLLERS:

☐

ELECTRIC

☐

PNEUMATIC

☐

ELECTRONIC

OPERATION:

☐

MANUAL

☐

TIME CLOCK

☐

CONTINUOUS

☐

EMCS

☐

DEMAND

MFG \_\_\_\_\_

MODEL \_\_\_\_\_

LOCATION \_\_\_\_\_

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

CONTROL/MISCELLANEOUS PROCESS/SKETCHES

#### 4.2.1 Interior Lighting

## LIGHTING

LOCATION

15h

**BLDG.**

[illegible]

### LIGHTING LEGEND:

**Lamp Types:**

Incandescent = I  
Fluorescent = F  
Sodium Vapor = SV  
Mercury Vapor = MV  
Metal Halide = MH  
Other--Describe

**Window Code:**

If there are windows, indicate:

Curtains = C  
Shades = S  
No Shading = NS

**Tasks Code:**

1 = Corridors  
2 = Kitchens  
3 = Dining  
4 = Offices-general  
5 = Offices-bookkeeping (ledgers only)  
6 = Offices-drafting  
7 = Laundry  
8 = Toilets  
9 = Sleeping quarters  
10 = Supply rooms  
11 = Repair shops  
12 = Storage room  
13 = Retail store (PX, commissary)  
Other (describe on audit form)  
E = Exterior

**Fixture Types:**

Recessed = R  
Suspended = S  
Ventilated = V  
Pole Mounted = PM  
Other--Describe

LOCATION KAL SURVEYED BY R.H./R.T.B. DATE 10/15/92  
BUILDING NUMBER 2201 FUNCTION/USE CONTROL TOWER  
INFORMATION SOURCE (DWG. NO./PERSON) SURVEY + DWGS

BUILDING AGE: \_\_\_\_\_ YEARS :

DUPLICATE BUILDING NOS: 1205 :

\_\_\_\_\_ :

\_\_\_\_\_ TOTAL:

SIMILAR BUILDING NOS: \_\_\_\_\_

\_\_\_\_\_ TOTAL:

NO. OF OCCUPANTS 2

IN USE DURING RANGE  
OPERATIONS ONLY

[illegible]

MISCELLANEOUS EQUIPMENT: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

ADDITIONAL COMMENTS, CRITICAL LOADS: \_\_\_\_\_

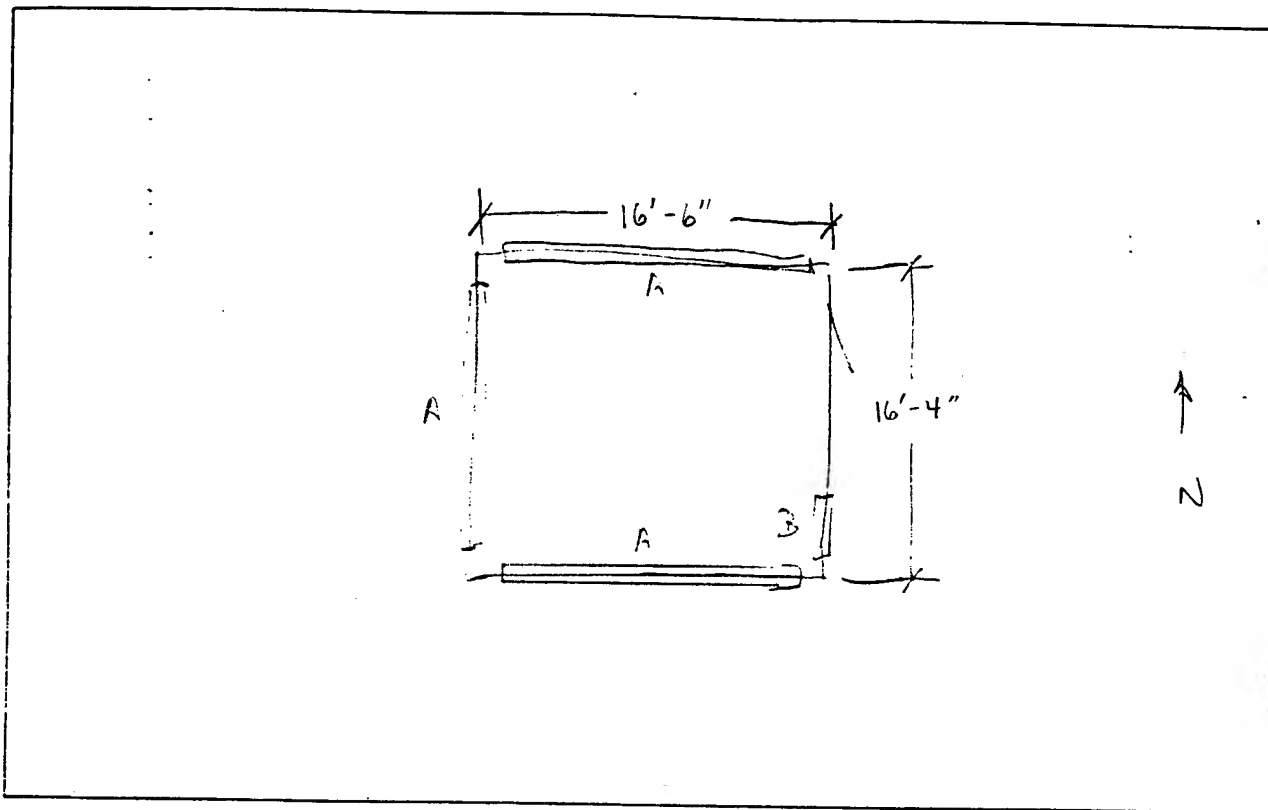
CRAWL SPACE: VENTILATED ☐ EXHAUSTED ☐ 3 N/A

ATTIC: VENTILATED ☐ EXHAUSTED ☐ 3

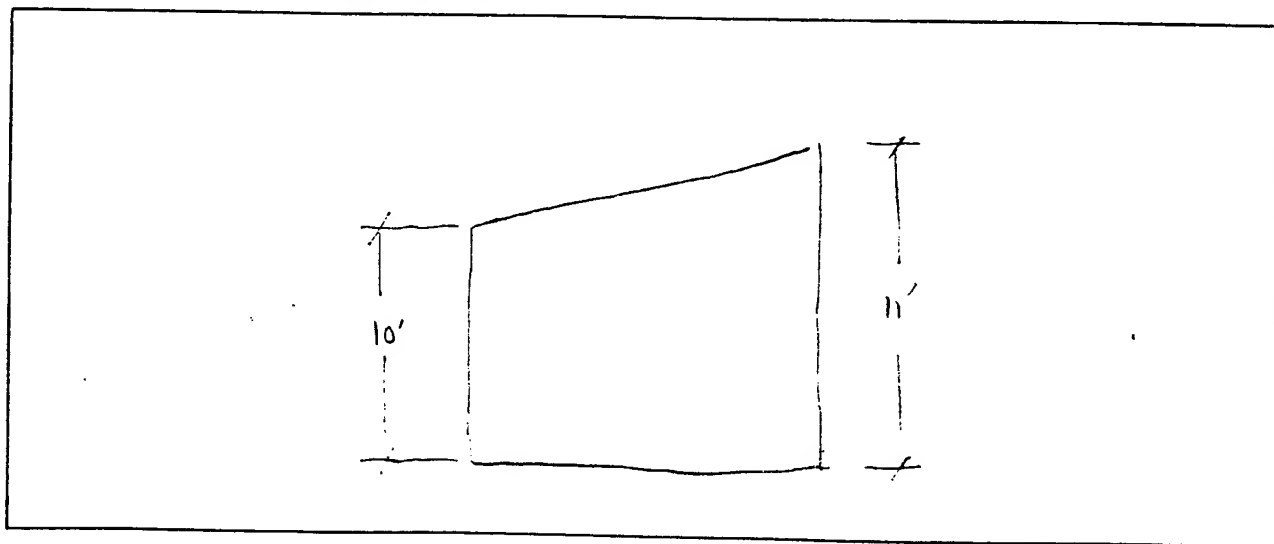
2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

LOCATION FAL.  
BLDG. NO. 220

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



BUILDING FLOOR PLAN AND  
ELEVATION SKETCHES



[illegible]

	TOTAL AREA	U-VALUE
1		
2		
3		
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11		
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100		

**LEGEND:**

*GLAZING:	**FRAME:	***SHADING:	****VISIBILITY:	*****WINDOW TYPES:
1 - ORDINARY	W - WOOD	A - SOLAR FILM	E - AWNING	1 - DOUBLE HUNG
2 - 1" PLATE	M - METAL	B - VEN BLIND	F - SOLAR SCREEN	2 - SINGLE HUNG
3 - HEAT ABSORBING	T - METAL/THERMAL BREAK	C - STORM WINDOW	G - OVERHANG	3 - SLIDING
4 - TINTED		D - DRAPES	OTHER - SPECIFY	6 - FIXED GLASS

## 2.4 BUILDING ENVELOPE

LOCATION FHL

BLDG. NO. 220

### CONSTRUCTION

WALL ALL COLOR: D ☐ M ☐ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
ALUMINUM SIDING		
3" FOAM INSULATION		
ALUM. SIDING		
INSIDE FILM		
TOTAL		

U-FACTOR

AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR

AREA

BUILDING SKIRTING MATERIAL

### ROOF (INCL. CLG.)

TYPE: F ☐ P ☐

COLOR: D ☐ M ☐ L ☐

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
ALUM SIDING		
3" FOAM INSUL		
ALUM. SIDING		
INSIDE FILM		
TOTAL		

U-FACTOR

AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR

AREA

BUILDING ENVELOPE

# 3.1 HEATING EQUIPMENT & COOLING

LOCATION FHL  
BLDG. NO. 2201

Heat Source:

☐ Furnace ☐ Steam Boiler ☐ Hot Water Boiler ☒ Heat Pump ☐ Supplied Steam or Hot Water (External Boiler Plant) ☐ Other \_\_\_\_\_

Capacity: 11,800 Btu/Hr - cooling 208V/1Ø/7.1A  
or 11,600 Btu/Hr or \_\_\_\_\_ Boiler HP or \_\_\_\_\_ Lbs/Hr Steam or \_\_\_\_\_ GPM Hot Water

Manufacturer: ZONE AIR - ZMO, INC. Model No.: CSM311350

Boiler/Furnace Control: ☒ Manual ☐ Time Clock ☐ Demand ☐ EMCS ☐ O<sub>2</sub> Trim

Operating Temperature: \_\_\_\_\_ °F Operating Pressure: \_\_\_\_\_ PSI

Fuel: ☐ Nat. Gas Only ☐ Nat. Gas/ \_\_\_\_\_ Draft: ☐ Forced ☐ Induced  
☐ Other (Specify) \_\_\_\_\_

Burner: Mfg. \_\_\_\_\_ Model No. \_\_\_\_\_ Metering Equipment: ☐ Yes ☐ No

Operating Schedule: Weekdays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day  
Weekdays & Holidays: From \_\_\_\_\_ To \_\_\_\_\_ Hr/Day  
Operating Season: From \_\_\_\_\_ Mon/Day, to \_\_\_\_\_ Mon/Day

Flue Gas Temperature: \_\_\_\_\_ °F Receiver Tank Conditions: \_\_\_\_\_ PSIG \_\_\_\_\_ °F

If supplied Steam or Hot Water: Steam Pressure \_\_\_\_\_ PSI Hot Water Supply Temp. \_\_\_\_\_ °F Hot Water Return Temp. \_\_\_\_\_ °F

Insulation: (1) Boiler (2) Other (Specify) \_\_\_\_\_  
Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup> Poor ☐ Area \_\_\_\_\_ FT<sup>2</sup>  
None ☐ Temp. \_\_\_\_\_ °F None ☐ Temp. \_\_\_\_\_ °F

Pump: No. of Pumps \_\_\_\_\_ V/PH/FLA \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_ RPM \_\_\_\_\_  
HW Pump Starter: ☐ HOA ☐ Reset P/B ☐ S/S Push Button Interlocked with Boiler? ☐ Yes ☐ No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. \_\_\_\_\_ Model \_\_\_\_\_

Condensate Pumps/Hot Water Pumps: Mfg. \_\_\_\_\_ Model \_\_\_\_\_ HP \_\_\_\_\_

Boiler/Furnace Condition: \_\_\_\_\_

Describe \_\_\_\_\_

Occupant Discomfort (Evaluate): \_\_\_\_\_

HEATING EQUIPMENT

#### 4.2.1 Interior Lighting

**BLDG.**

2201

[illegible]

**LIGHTING LEGEND:**

**Window Code:**

**If there are windows, indicate:**

Incandescent = I  
Fluorescent = F  
Sodium Vapor = SV  
Mercury Vapor = MV  
Metal Halide = MH  
Other--Describe

**Fixture Types:**

Recessed = R  
Suspended = S  
Ventilated = V  
Pole Mounted = PM  
Other--Describe

**Tasks Code:**

ROOMS CODE.	
1 = Corridors	6 = Offices-drafting
2 = Kitchens	7 = Laundry
3 = Dining	8 = Toilets
4 = Offices-general	9 = Sleeping quarters
5 = Offices-bookkeeping (ledgers only)	10 = Supply rooms
	11 = Repair shops
	12 = Storage room
	13 = Retail store (PX, commissary)
	Other (describe on audit form)
	E = Exterior

## LIGHTING

### 4.2.1

**APPENDIX G**

**Energy Conservation Regulation  
and  
Engineering Technical Letters**

DEPARTMENT OF THE ARMY  
HEADQUARTERS, 7TH INFANTRY DIVISION (LIGHT) AND FORT ORD  
Fort Ord, California 93941-5000

Ft Ord Regulation  
No. 11-2

30 OCT 1985

Army Programs  
ENERGY CONSERVATION MANAGEMENT

1. PURPOSE. This regulation updates, adds, and describes policies, procedures, and responsibilities for the 7th Infantry Division (Light) and Fort Ord Base Complex Energy Program. This regulation additionally supplements AR 11-27, Army Energy Program, 7 July 1985.

2. APPLICABILITY. This regulation applies to all elements of the 7th Infantry Division (Light) and Fort Ord Base Complex including all Government-owned contractor-operated (GOCO) activities and leased facilities. The regulation applies to the administrative and other non medical areas of hospitals and medical facilities where practicable.

3. REFERENCES.

- a. AR 11-27, Army Energy Program.
- b. AR 420-49, Heating, Energy Selection and Fuel Storage, Distribution, and Dispensing Systems.
- c. AR 190-11, Physical Security of Arms, Ammunition and Explosives.
- d. AR 200-1, Environmental Protection and Enhancement.
- e. Army Facilities Energy Plan.
- f. Fort Ord Regulation 420-1.
- g. Fort Ord Base Complex Comprehensive Energy Plan.
- h. DA Pamphlet 210-2, Handbook for Family Housing Occupants.
- i. Fort Ord Addendum to DA Pam 210-2.

4. DEFINITIONS.

a. Energy. The term "energy" as used herein encompasses all forms and sources, including renewable and nonrenewable, of energy.

b. Mobile fuels. All forms of energy sources/fuels used in combustion engine equipment, to include portable TOE generators, wheel and track vehicles, heavy equipment and all types of aircraft and marine equipment.

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\* This regulation supersedes Fort Ord Regulation 11-2, 26 Apr 79, and all changes.

30 OCT 1985

c. Facilities energy. All forms of energy sources/fuels used in the provision of utilities services.

d. Nonrenewable energy source. Fuel oil, petroleum, natural gas, liquefied petroleum gas, synthetic fuels, coal, purchased steam or electricity, or other such energy sources.

e. Renewable energy source. Sunlight (solar), wind, geothermal, hydropower, biomass, solid wastes, or other such sources of energy.

f. Fort Ord Base Complex. All units and activities located at Fort Ord, Fort Hunter Liggett, Presidio of Monterey, including tenant units and activities, Army Reserve Centers and units, and activities satellited on Fort Ord or the subinstallations (FHL, POM) for support.

5. OBJECTIVES. To meet the objectives stated in the Army Energy Program AR 11-27 and the following:

a. To not only meet the energy goals established by FORSCOM and higher headquarters, but to consume less energy than allocated.

b. To continuously evaluate, analyze, and revise energy programs, policies, directives, operating procedures, and efforts to ensure that available energy resources are used efficiently and effectively in support of mission requirements.

c. To become the recognized leader in energy conservation in Forces Command.

d. Establish energy conservation as a priority Command interest program. As such, Commanders and supervisors at all levels are expected to impress on each individual, military and civilian, the importance of their contribution.

e. Promote energy awareness and achieve an environment in which each individual actively and willfully conserves energy and participates in the Program.

f. Recognize accomplishments of military and civilian personnel in energy conservation.

6. POLICY. The 7th Infantry Division (Light) and Fort Ord Base Complex energy policies are consistent with the Army Energy Program policies and are supplemented as follows:

a. Energy waste will not be tolerated and will be eliminated.

b. The energy conservation opportunities and measures provided in the appendices of the Army Facilities Energy Plan will be implemented in all facilities where applicable and appropriate.

c. Energy Conservation in no way: reduces the effectiveness of any organization, impairs the health and safety of any personnel, or lessens "quality of life" objectives. In fact, energy conservation efforts help improve each of these areas when properly managed.

d. The 7th Infantry Division (Light) and Fort Ord Base Complex Energy Council will serve as the forum to formulate, coordinate, revise, and disseminate energy policy and actions.

## 7. RESPONSIBILITIES.

a. Commanding General, 7th Infantry Division (Light) & Fort Ord: Overall responsibility for the efficient management of energy resources of the 7th Infantry Division (Light) & Fort Ord Base Complex.

b. Assistant Division Commander (Maneuver).

1. Has direct responsibility for the efficient management of energy resources.

2. Presides as the chairman of the 7th Infantry Division (Light) and Fort Ord Base Complex Energy Council; directs the activities of the Council; conducts Council meetings at least quarterly to review reports and recommendations, and evaluates the progress and effectiveness of energy conservation programs. Reviews progress toward meeting energy goals assigned by higher headquarters.

3. Directs and expedites staff actions on energy matters as necessary to enhance the effectiveness of energy conservation efforts and to make adjustments in policy as required to meet the energy goals assigned by higher headquarters.

c. Assistant Division Commander (Support): acts as deputy chairman of the 7th Infantry Division (Light) and Fort Ord Base Complex Energy Council and is responsible for the overall supervision of the Energy Conservation Program. Staff responsibility will be exercised through the Energy Coordinator in coordination with principal staff personnel.

d. Energy Coordinator.

(1) Manages the DEH, Energy Management Branch.

(2) Responsible for the administrative duties of directing the 7th Infantry Division (Light) and Fort Ord Base Complex Energy Program.

(3) Coordinates facility, mobility, and research and development energy matters.

(4) Serves as single POC on all energy related matters for the Command and higher headquarters.



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- (5) Develops and maintains active command energy program.
- (6) Writes regulations to implement policy and controls established for effective energy conservation management as directed by higher authority and the 7th Infantry Division (Light) and Fort Ord Base Complex Energy Council.
- (7) Actively promotes Command and family housing community energy awareness.
- (8) Actively participates in the 7th Infantry Division (Light) and Fort Ord Base Complex Energy Council.
- (9) Develops and maintains the Complex comprehensive energy plan (facility energy and mobility fuels) with input provided by DOL.
- (10) Develops and maintains an active energy information program.
- (11) Develops and maintains accurate and timely energy management information programs. The Defense Energy Information System (DEIS) reports are the foundation of the program.
- (12) Maintains liaison and cooperation with local representatives of Federal, State, and other local energy offices.
- (13) Develops and recommends energy conservation projects.
- (14) Coordinates energy conservation matters with the FORSCOM energy office.
- (15) Maintains liaison on energy matters with the Corps of Engineers and other MACOMS as appropriate.
- (16) Maintains communications with contractor's energy offices.
- (17) Reviews commercial activities (CA) work statement to ensure contractor participation in energy conservation.
- (18) In conjunction with government contracting personnel, ensures that operational organizations placed under the CA work statement have responsibility to physically develop methods/projects for the conservation of energy.
- (19) The above responsibilities will not usurp the functional and technical responsibilities of the facility engineering, supply, financial, or industrial operations activities.
- (20) Manages other energy conservation related functions as may be specified in Fort Ord Regulation 420-1.
- (21) Provides support to units/activities upon request for energy

inspections, energy SOP development, Energy Conservation Officer training, and energy conservation opportunity/measure implementation.

e. Director of Engineering and Housing (DEH).

(1) Maintains and actively supports the Energy Management Branch. Staffs the Branch with full-time personnel. The Chief of this Branch is the Energy Coordinator for the 7th Infantry Division (Light) and Fort Ord Base Complex.

(2) Serves as a member of the 7th Infantry Division (Light) and Fort Ord Base Complex Energy Council.

(3) Assigns facility energy goals for each subinstallation (FHL and POM) and Army Reserve Center attached for support purposes based on: active facility area (sq. ft.) and expected increases, environmental conditions, energy goals assigned to the Complex by higher headquarters, and other energy engineering considerations.

(4) Ensures efficient operation of existing utilities, plants, systems; and develops construction and modification projects for facilities to employ conservation principles. Provides guidance and recommendations on the efficient use of facility energy.

(5) Performs continuous analysis of utilities and energy consuming operations to ensure efficient and economical use of equipment, energy, and materials. Reviews the electric, gas, and water consumption charges and rate schedules for accuracy.

(6) Develops and obtains data on status of utilities programs for reporting at conferences and developing graphical reports.

(7) Reviews, conducts, and supervises a Complex wide utilities conservation and facilities maintenance self-help program for all units and activities utilizing and occupying government owned facilities including BOQ'S. Includes family housing in the program as changes occur in the contractor scope of work that may leave energy conservation related tasks uncovered by the contract due to budget constraints.

(8) Monitors family housing utility usage where possible. Ensures all occupants are aware of their responsibilities under the Energy Program prior to occupation of quarters. Conducts housing area inspections for energy conservation violations such as leaving outside lights on during daylight hours and improper lawn watering. Impresses upon family housing residents the significance of their individual contribution and compliance with the Energy Program. Keeps family housing residents informed of energy conservation related matters.

(9) Keeps the Energy Coordinator informed of and actively involved in all activities and plans that involve energy use and conservation.

## f. Director of Logistics.

(1) Serves as a member of the 7th Infantry Division (Light) and Fort Ord Base Complex Energy Council.

(2) Ensures that the most energy efficient and cost effective processes and equipment are used in all operations.

(3) Identifies high energy consuming processes and coordinates energy efficiency improvements with the Energy Coordinator.

(4) Determines, in conjunction with the Energy Coordinator, possible and necessary modifications to reduce energy consumption and improve energy efficiency in plant operations.

(5) Takes necessary actions to schedule heavy energy (electrical) using devices for operation during off-peak hours whenever possible.

(6) In conjunction with the Energy Coordinator, develops Energy Conservation and Management (ECAM) projects for GOCO plants.

(7) Exercises overall supervision of the Mobility Fuel Conservation Program.

(8) Monitors and ensures compliance with the policies of the Mobility Fuel Conservation Program for the 7th Infantry Division (Light) and Fort Ord Base Complex in conjunction with ACoFS G-3, G-4, and DPTM.

(9) Prepares and ensures the timely submission of the DEIS I report. Provides the Energy Coordinator with an information copy of the report.

(10) In conjunction with ACoFS G-3, G-4, and DPTM, formulates goals, plans, and priorities as required for the allocation of mobility fuels to units and activities of the 7th Infantry Division (Light) and Fort Ord Base Complex.

(11) Provides assistance as required to the Energy Coordinator for development and implementation of Comprehensive Energy Plans (facility and mobility) for the Complex.

(12) Keeps the Energy Coordinator informed of and actively involved in activities and plans that involve energy use and conservation.

## g. Director of Personnel and Community Activities (DPCA).

(1) Serves as a member of the 7th Infantry Division (Light) and Fort Ord Base Complex Energy Council.

(2) Monitors energy usage by non appropriated and sundry fund activities.

(3) Ensures that energy consuming fund raising activities such as car washes are only approved for officially recognized charities.

(4) Ensures sound energy management is exhibited in all facilities such as the commissary and post exchanges, eg., space temperature, lighting, concessions.

(5) Ensures that energy saving products are made available for purchase at the post exchange.

(6) Provides support and necessary assistance to the DEH Energy Management Branch for Energy Awareness Week Activities.

(7) Keeps the Energy Coordinator informed of all activities and plans that involve energy consumption and conservation.

h. Director of Plans, Training and Mobilization (DPTM).

(1) Serves as a member of the 7th Infantry Division (Light) and Fort Ord Base Complex Energy Council.

(2) In coordination with DOL/ACofS G-3, G-4, formulates goals, plans, and priorities as required for the allocation of mobility fuels for operations and training.

(3) Implements and monitors the Mobility Fuel Conservation Program as it pertains to operations and training.

(4) Keeps the Energy Coordinator and DOL informed of all activities and plans that involve energy consumption and conservation.

i. Assistant Chief of Staff (G-3).

(1) Serves as a member of the 7th Infantry Division (Light) and Fort Ord Base Complex Energy Council.

(2) In coordination with DOL, DPTM, and ACofS G-4 formulates goals, plans, and priorities as required for the allocation of mobility fuels for operations and training.

(3) In conjunction with DPTM, implements and monitors the Mobility Fuel Conservation Program as it pertains to operations and training.

(4) Keeps the Energy Coordinator and DOL informed of all activities and plans that involve energy consumption and conservation.

j. Assistant Chief of Staff (G-4).

(1) Serves as a member of the 7th Infantry Division (Light) and Fort Ord Base Complex Energy Council.

(2) In coordination with DOL, DPTM, and ACoS G-3 formulates goals, plans, and priorities as required for the allocation of mobility fuels to units and activities of the 7th Infantry Division (Light) and Fort Ord Base Complex.

(3) In conjunction with DOL implements and monitors divisional and non-divisional POL consumption and the Mobility Fuel Conservation Program.

(4) Checks for compliance with energy conservation policies of this and referenced regulations and energy plans when inspecting dining facilities.

(5) Keeps the Energy Coordinator, DEH, and DOL informed of all activities and plans that involve energy consumption and conservation.

k. Garrison Commanders Fort Hunter Liggett and Presidio of Monterey.

(1) Serve as members of the 7th Infantry Division (Light) and Fort Ord Base Complex Energy Council.

(2) Establish Energy Conservation Programs and Energy Councils for FHL and POM consistent with and based on policies and guidance in this regulation. This regulation may be supplemented on those subinstallations in lieu of developing separate Energy Programs.

(3) Directly responsible for meeting assigned energy goals established for POM/FHL and as such will serve as chairmen of their respective subinstallation energy councils.

(4) Keep the Energy Coordinator and DEH (Fort Ord) informed of activities and plans that involve energy consumption and conservation.

1. Public Affairs Office (PAO).

(1) The PAO will serve as a member of the 7th Infantry Division (Light) and Fort Ord Base Complex Energy Council.

(2) Supports the energy conservation program and energy awareness efforts by the use of all available media in order to educate personnel on energy matters and stimulate active support.

(3) Ensures that energy awareness articles are given priority and provided a place of prominence in newspapers and publications.

(4) Provides media coverage of the annual Energy Awareness Week activities.

(5) In conjunction with DPCA, assists the Energy Coordinator in planning and developing annual Energy Awareness Week activities.

m. Provost Marshal.

(1) Serves as a member of the 7th Infantry Division (Light) and Fort Ord Base Complex Energy Council.

(2) Assists in the implementation of energy conservation measures when safety and security requirements may be affected.

(3) Assists in the enforcement of the directives of this regulation where applicable in cooperation with the Energy Coordinator and other members of the Energy Council. Special attention will be given to lighting, watering, and electric space heater violations.

n. Civilian Personnel Officer (CPO).

(1) Serves as a member of the 7th Infantry Division (Light) and Fort Ord Base Complex Energy Council.

(2) Recognizes units/activities and individuals for outstanding achievements in energy conservation.

(3) Will develop and implement a Facilities Energy Conservation Excellence Incentive Award Program for units and activities with input provided by DEH.

o. Adjutant General will ensure that energy conservation articles are published in official publications, periodicals, and bulletins, and serve as a member of the Energy Council.

p. 7th Infantry Division (Light) and Fort Ord Base Complex Energy Council members will:

(1) Meet with the chairman upon notification. (See Appendix A for membership).

(2) Appoint an Energy Conservation Officer (ECO) on DF (DA Form 2496) for each level of command down to and including the brigade and battalion level. Brigade and battalion Commanders may at their discretion require the appointment of ECOs at the company, battery, or troop level. Other personnel may be additionally assigned at the division level, directorates, activities, tenant organizations and activities, and Offices to assist in carrying out the program. Each member of the Energy Council will appoint at least one Energy Conservation Officer in writing to carry out the duties of the Energy Conservation Officer as specified in this regulation. Senior NCOs (E-7 through E-9) may be appointed as ECO at the company, troop, battery level. Civilian employees may be appointed as ECO at the directorates, Offices, and other organizations when the Director, Office Chief, or Commander deems the appointment appropriate. A copy of all the ECO appointing authority DFs will be forwarded to Chief, ERMD, AFZW-DE-RM, ATTN: Energy Management Branch.

(3) Personally support, monitor, and ensure compliance with the energy conservation program and directives.

q. Energy Conservation Officers will:

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*Profr* → (1) Publish an energy conservation SOP for the Command, battalion, company, troop, battery, or other organization assigned and forward a copy through command channels to Chief, ERMD, AFZW-DE-RM, ATTN: Energy Coordinator. The energy conservation SOP will not be a restatement of this regulation or AR 11-27, but will assign specific responsibilities and duties to various personnel within the organization for which it is applicable. For example, the unit may have a motor pool that has authorized security lights that are manually controlled. The SOP will specifically address when the lights may be turned on and off and who will do it each day, including weekends.

(2) Attend energy conservation training classes. See Fort Ord Reg 420-1.

(3) Company, troop, and battery level ECOs, and ECOs of other organizations specified by Commanders, will conduct monthly inspections of assigned buildings and areas. All other organizational level ECOs will conduct inspections at least quarterly of all units, buildings, and areas.

(4) Appoint Energy Conservation Monitors for each building/area assigned. Provide training for appointed Monitors.

(5) Take immediate action to implement the energy conservation opportunities and measures provided in the appendices A and C and no/low cost portion of appendix B of the Army Facilities Energy Plan. Maintain records showing implementation progress.

(6) Take immediate action to correct discrepancies discovered during inspections. Ensure records are maintained describing completed work/progress or action taken to complete work.

(7) Take immediate action/provide direction and guidance to correct discrepancies discovered by Energy Conservation Monitors. Maintain records describing completed work/progress or action taken to correct discrepancies.

(8) Request inspection assistance once each quarter from Chief, ERMD, AFZW-DE-RM, ATTN: Energy Management Branch by DF (DA Form 2496). Requests are to be forwarded enough in advance to allow two weeks notice.

(9) Maintain liaison with the DEH Energy Management Branch. Request assistance from the Branch as required to: implement energy conservation opportunities and measures, prepare energy conservation SOP, conduct inspections (quarterly), clarify energy related policies/directives.

(10) Serve as the single POC for Energy Conservation Monitors in reporting space temperature complaints or other energy related problems/recommendations. The Energy Conservation Officer is the only authorized person (except the alternate in his absence) to request assistance from the DEH to correct energy related problems (particularly heating).

r. Energy Conservation Monitors will:

(1) Conduct daily, weekly, and monthly inspections as specified by Fort Ord Regulation 420-1 and as may be directed by the Energy Conservation Officer.

(2) In conjunction with the Energy Conservation Officer, ensure that all building occupants are aware of their responsibilities and that occupant cooperation and assistance is essential.

(3) Forward a copy of the Building Energy Conservation Monitor Checklist to the Energy Conservation Officer at the end of each month. (See FO Reg 420-1).

(4) Notify the Energy Conservation Officer immediately of any energy related problems that require immediate attention/resolution as specified in the energy conservation SOP.

(5) Inform all building occupants that the Energy Conservation Monitor (Energy Conservation Officer in the absence of the Monitor) is the single POC for energy related problems/complaints/recommendations.

(6) Place a mercury thermometer in each normally occupied space that is authorized heating and cooling (when applicable). Indicate on the thermometer or on a 3X5 card (placed next to the thermometer) the maximum heating temperature (and the minimum cooling temperature for Fort Hunter Liggett).

s. Family Housing Mayors (Fort Ord) will:

(1) Maintain liaison with the DEH Energy Management Branch.

(2) Assist the DEH Energy Management Branch with energy awareness and education activities/actions for family housing occupants.

(3) Provide assistance to the DEH Energy Management Branch in energy conservation incentive efforts.

(4) Establish a Family Housing Energy Council and elect a family housing mayor to serve as the chairman of the Family Housing Energy Council and as a member of the 7th Infantry Division (Light) and Fort Ord Base Complex Energy Council.

t. Director Health Services and Director Dental Services will develop Energy Conservation Programs, regulations, and directives for all medical and dental facilities; will appoint an Energy Conservation POC for their respective Commands and forward a copy of the appointment correspondence to Chief, ERMD, AFZW-DE-RM, ATTN: Energy Management Branch.

u. Inspector General (IG) makes energy conservation a matter of special interest during inspections. Serves as a member of the 7th Infantry Division (Light) and Fort Ord Base Complex Energy Council.



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The proponent of this regulation is Directorate of Engineering and Housing. Users are invited to send comments or suggestion changes to Commander, 7th Infantry Division and Fort Ord, ATTN: AFZW-DE-RM, Ft Ord, CA 93941-5777

FOR THE COMMANDER:



JAMES B. BYRNES  
Colonel, GS  
Chief of Staff

KENT R. SCHNEIDER  
MAJ, SC  
Director of Information Management

APPENDICES:

- A - 7th Infantry Division (Light) and Fort Ord Base Complex Energy Council
- B - Heat Conservation Guidance and Space Heating Temperature Standards
- C - Domestic Hot Water
- D - Electrical Energy Conservation Directives
- E - Water Conservation Directives
- F - Building Space Utilization and Survey
- G - Miscellaneous Procedures
- H - Energy Conservation Contingency Actions

DISTRIBUTION:

A plus AFZW-DE-RM (10)  
AFZW-DI-PO (10)  
AFZW-MI-AP (200)

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Fort Ord Reg 11-2

APPENDIX A - 7TH INFANTRY DIVISION (LIGHT) AND FORT ORD  
BASE COMPLEX ENERGY COUNCIL

1. PURPOSE. Serve as a forum to formulate, coordinate, and disseminate energy policy and actions.
2. MEMBERSHIP. The membership of the Energy Council will consist of the following:
  - a. ADC(M), 7TH INF DIV - Chairman
  - b. ADC(S), 7TH INF DIV - Deputy Chairman
  - c. Gar Cdr, Fort Ord
  - d. DEH, Energy Coordinator
  - e. DEH, Ft Ord
  - f. DOL, Ft Ord
  - g. DPCA, Ft Ord
  - h. DPTM, Ft Ord
  - i. Chief of Staff
  - j. Gar Cdr, FHL
  - k. Gar Cdr, POM
  - l. ACofS, G-3
  - m. ACofS, G-4
  - n. PAO
  - o. Provost Marshal
  - p. DRM
  - q. Adjutant General
  - r. CPO
  - s. Chairman, Family Housing Energy Council, Ft Ord
  - t. Cdr, 1st Bde, 7TH INF DIV
  - u. Cdr, 2nd Bde, 7TH INF DIV
  - v. Cdr, 3rd Bde, 7TH INF DIV
  - w. Cdr, Bayonet Combat Support Bde, 7TH INF DIV
  - x. Cdr, DIVARTY, 7TH INF DIV
  - y. Cdr, DISCOM, 7TH INF DIV
  - z. CMTD, DLI
  - aa. Cdr, 1/51st ADA BN, 7TH INF DIV
  - bb. Cdr, 13th ENGR BN, 7TH INF DIV
  - cc. Cdr, CBT AVN Bde
  - dd. Cdr, 7/7TH ADA Bn
  - ee. Cdr, 2/10th RECON. SQDN
  - ff. Cdr, 107 MI BN (CEWI), 7TH INF DIV
  - gg. Cdr, 127th SIGNAL BN, 7TH INF DIV
  - hh. Cdr, P&A BN
  - ii. Cdr, HHC, 7TH INF DIV
  - jj. DRCS, Ft Ord
  - kk. Cdr, IASO
  - ll. DOIM, Ft Ord
  - mm. DHS, Ft Ord
  - nn. DDS, Ft Ord
  - oo. Dir. CDEC
  - pp. IG, Ft Ord
  - qq. Post Chaplain
  - rr. Cdr, USAIC SATCOM Camp Roberts, CA

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3. RESPONSIBILITIES.

a. Assist the Commanding General, 7th Infantry Division (Light) and Fort Ord meet the objectives of the Army Energy Program AR 11-27 and the additional objectives specified in this regulation.

b. Review guidance and directives from higher headquarters, relating to energy, and keep abreast of all changes.

c. Review existing and proposed changes to the 7th Infantry Division (Light) and Fort Ord Base Complex energy regulations, policies, directives, and energy plans to ensure that they are in consonance with the energy guidance and directives from higher headquarters.

d. Develop and recommend initiatives, incentives, and additional actions for consideration to improve the energy program.

e. Personally promote energy awareness in areas of responsibility and ensure compliance with existing energy policy and directives.

f. Recognize accomplishments of Army personnel as they pertain to energy conservation.

g. Participate in contingency planning for actions to be taken in the event of an energy supply interruption or curtailment.

APPENDIX B - HEAT CONSERVATION GUIDANCE AND  
SPACE HEATING TEMPERATURE STANDARDS

1. BUILDING TEMPERATURE - NON FAMILY HOUSING. A majority of the building heating systems are controlled automatically and no manual adjustment is required. Adjustments to automatic systems will be made by DEH.

a. All building occupants will refer building space temperature complaints to the appointed Energy Conservation Monitor. The Energy Conservation Monitor will refer valid temperature complaints to the Energy Conservation Officer (or to the appointed alternate in his absence). The Energy Conservation Officer (ECO) is the only authorized person to refer space temperature complaints to DEH.

b. Valid space temperature complaints will be referred by the ECO to the DEH Work Management Branch, ext 7664 for buildings not controlled by the energy monitoring control system (EMCS). EMCS controlled building space temperature complaints will be referred to the DEH Energy Management Branch, ext 4503 by the ECO.

c. Energy Conservation Monitors will check the space temperature in the assigned building daily. The temperature in any area shall not exceed the temperature outlined below during the heating season. The monitor will adjust manual thermostats to lower the temperature when possible. The monitor will contact the ECO and inform him immediately when the temperature can not be lowered due to automatic or manual control malfunction.

d. Except for hospitals, other medical and dental facilities, child care centers, pre-schools, and special requirement areas that have been authorized an exception in writing by DEH, buildings will not be heated when the outside air temperature is 65 degrees F or above. The following are the maximum authorized heating temperatures and must not be exceeded:

(1) 65 degrees F. Living quarters when occupied and occupants are awake, dining facilities, administrative areas, offices, chapels, PX buildings, commissaries, theaters, locker rooms, and shower areas in gymnasiums, and similar areas involving little or no physical exercise. The temperature in these areas shall be reduced to 55 degrees F during non-working hours, periods when not normally occupied, and hours when occupants are sleeping.

(2) 60 degrees F. Supply and issue rooms and similar areas.

(3) 55 degrees F. Shops, hangars, gymnasiums, motor pools, and other buildings or sections of buildings, where many employees work in a standing position and exercise moderately.

(4) 40 degrees F. Shops, warehouses, and similar areas, where personnel do work involving considerable exercise such as heavy packing, crating, and stacking; or where the building is normally unoccupied, but heat is required to protect material and installed equipment from freezing. Heat will not be permitted in warehouse sections which do not contain material or equipment requiring protection from freezing or condensation

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and where warehousing of stored goods is the only operation. Heat for prevention of condensation on stored machinery and materials will be supplied only after a thorough survey of all conditions and the approval of FORSCOM.

- (5) 76 degrees F. Operating and delivery rooms.
- (6) 75 degrees F. Recovery rooms, nursery, and nursing units.
- (7) 80 degrees F. Intensive care, special care nursery, and special treatment rooms.
- (8) 70 degrees F. Other occupied medical areas.
- (9) Special purpose rooms such as paint shops and drying rooms may be allowed up to a maximum 80 degrees F when authorized in writing by DEH.

e. The operation of threshold heaters and portable heating devices is prohibited where the intent is to supplement central heating systems. They are also prohibited where the intent is to circumvent the heating standards outlined above. Electrical resistance heating is not authorized for personnel comfort. In rare instances or in an emergency, written permission to utilize heating equipment other than the central system may be obtained from DEH. In such instances, utilization of such heating equipment must allow the central system to be lowered or shut down and an overall energy consumption reduction can be achieved and proven. Electric heaters, when permitted, shall be Underwriter's Laboratories, Inc., labeled or listed and shall be of a type in which the electrical circuitry is automatically shut off in the event the unit is tipped over. Power supply cords and plugs shall be in good condition and the supply circuit shall be adequate for safe use. Unapproved heaters shall be considered contraband and will be confiscated by the Provost Marshal. A copy of the DF granting approval to use electric space heaters must be posted and available to Fire or Energy Inspectors, Provost Marshal personnel, and inspection parties at all times.

f. The heating system shall be shut down/turned to the lowest setting whenever windows or doors are opened. (See paragraph 2 below)

g. When sunlight is available during winter days, the drapes, blinds, and shades shall be opened on the sunny sides of buildings. The window coverings shall be closed when it is cloudy/overcast and at the end of each work day.

h. The Energy Conservation Officer will inform the DEH Energy Management Branch, ext 4503 anytime a building that is normally occupied and heated will be unoccupied for more than 72 hours.

i. Opening windows and doors shall not be used as a method of regulating heat. Rooms/buildings that cannot be maintained at or below the maximum authorized temperature shall be reported to the Energy Conservation Officer and DEH immediately.

j. Personnel who do not adhere to the temperature standards should be encouraged to report violations.

## 2. VENTILATION - (NON-MEDICAL FACILITIES).

a. Ventilation of buildings during the heating season or when the outside temperature is less than 65 degrees F will be limited to that necessary for the health of occupants. Noticeable odors are good indicators of the need to ventilate spaces.

b. Ventilation of buildings will be closely monitored to prevent heating and air conditioning energy waste. The heating or air conditioning system must be shut off when the windows and doors of a building are opened for more than a couple of minutes to provide fresh air and ventilation. The Building Energy Monitor shall turn the thermostat to ensure the heater or air conditioner will not come on (eg. lowest setting during heating season and highest setting during air conditioning season). The Building Energy Monitor shall call the Energy Management Branch, ext 4503 to have the systems shut off by the Energy Monitoring Control System computer when applicable. Windows may be opened at anytime and for as long as desired providing the heating and air conditioning systems have been shut off.

c. Exhaust hoods in food preparation areas shall be used only while cooking operations are in progress. The air path in the exhaust duct shall be closed when a damper is provided and the fan is not in operation.

## 3. BUILDING TEMPERATURE - FAMILY HOUSING.

a. Family housing occupants will maintain indoor temperatures at a maximum 65 degrees F while awake. The thermostat shall be set to 55 degrees F before retiring in the evening.

b. Thermostats will be turned down to the lowest setting anytime the house will be unoccupied for more than 12 consecutive hours.

c. Windows near thermostats will be kept tightly closed.

d. The filter in forced air heating systems will be inspected each month by an adult resident when the filters are accessible or at least once each quarter by DEH when filters are not accessible to residents.

e. Portable space heaters of any type are strictly forbidden except as authorized and may be furnished by DEH in an emergency.

f. Thermostats will be turned to the lowest setting anytime the windows and doors are left open for more than a couple of minutes.

## APPENDIX C - DOMESTIC HOT WATER

1. HOT WATER TEMPERATURES. Hot water heating equipment will be operated to provide water to the points of use at maximum temperatures shown below to include all hot water other than that used for space heating.

(a) 105 degrees F. General domestic uses, personal hygiene, or general cleaning will not exceed the maximum temperature at the destination, or it will not exceed the lowest setting on the hot water temperature control if the specified temperature cannot be achieved. Includes family housing units without automatic dishwashers.

(b) 140 degrees F. Automatic dishwashers in dining facilities or other food service areas. Includes family housing units equipped with automatic dishwashers.

(c) 180 degrees F. Final rinsing of dishes and kitchen utensils in dining facilities and other food service areas. Does not include family housing units.

2. HOT WATER SUPPLY. Hot water will not be supplied to the following areas: administrative areas (offices); retail areas, except for food service and handling areas; warehouses; light work shops; toilet rooms and other spaces that could function without hot water.

3. EXCEPTIONS. Except for the following, requests for exceptions to the hot water temperature and supply restrictions will be forwarded to Chief, ERMD, AFZW-DE-RM, ATTN: Energy Management Branch through the Director of Health Services.

a. Industrial and manufacturing processes.

b. Medical and food handling operations. Hot water temperatures required to meet health regulations are exempt.

c. Domestic hot water obtained wholly from solar energy and/or waste heat recovery processes.

4. Hot water heaters will be insulated with fiberglass insulation blankets unless the heaters are the "Energy Efficient" type that have the additional insulation built in.

5. Domestic hot water supply piping shall be insulated where readily accessible.

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APPENDIX D - ELECTRICAL ENERGY CONSERVATION DIRECTIVES

1. Electric heaters are prohibited for use in any building on the Fort Ord Base Complex except as noted in Appendix B. Electric hot water heaters are prohibited in all facilities except when there are no other alternative energy sources (utilities) available and an exception has been authorized by DEH in writing. Electric space heaters shall not be purchased or issued for use in any facility. Requests for purchase/issue to meet emergency requirements will be forwarded to DEH through Chief, ERMD, AFZW-DE-RM, ATTN: Energy Management Branch.
2. Refrigerators are prohibited for use in all facilities except dining facilities, family housing, barracks (BEQs/BOQs), commissaries, food retail areas, and authorized food storage and handling areas. Requests for exceptions to this policy shall be forwarded to the Garrison Commander through DEH. Exceptions may be authorized on a case-by-case basis for special situations or requirements such as storage of photographic film, chemicals, etc. Energy Conservation Officers will ensure that refrigerators are being fully utilized in barracks. In general, 2 cubic feet of refrigerator space per person should be maximum authorized in barracks (BEQs/BOQs).
3. Heat producing appliances used for cooking or heating food, except coffee pots, are prohibited for use in all areas except family housing, dining facilities, commissaries, and food retail sales areas. Requests for exceptions to this policy shall be forwarded to the Garrison Commander through DEH.
4. Controls, commensurate with the objectives of the energy program, will be established by the unit Commander or supervisor for electrical personal convenience items.
5. AIR CONDITIONING.
  - a. During the summer cooling season, space temperatures will not be held lower than 78 degrees F for personnel comfort.
  - b. Will not be turned on when the outside air temperature is below 78 degrees F.
  - c. Will be turned off when the building is unoccupied, except as required for special equipment.
  - d. Army Medical Department facilities are exempt from the above listed standards. Requests for other exceptions to this policy shall be forwarded to DEH.
6. Refrigerated drinking water fountains shall not be plugged in and the electrical cords shall be removed except for those in medical facilities and those at Fort Hunter Liggett.



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7. Government furnished or owned clothes dryers shall be natural gas or propane fueled when possible. Natural gas and propane clothes dryers will have electric ignition when purchased. Government contracting personnel shall not purchase an electric clothes dryer for use in any facility unless electricity is the only source of power/fuel available.

8. The use of electric appliances such as ranges, stoves, and ovens is discouraged. When natural gas or propane is available to a facility, replacement appliances shall be natural gas or propane. Existing operational electric appliances shall not be removed and replaced merely to meet this requirement. This requirement will be met through attrition, eg. when an electric range fails it will be replaced by a natural gas range if natural gas is available. New natural gas and propane appliances shall be equipped with electric ignition.

9. Lighting.

a. All lights will be turned off when not in use.

b. Except for security lighting required by AR 190-11, Physical Security of Arms, Ammunition, and Explosives, no Army requirement exists for security or firelights over the doors of buildings during unoccupied periods. These lights shall not be used on any building during periods of unoccupancy except as required by AR 190-11. Requests for exceptions to this policy shall be forwarded through the Provost Marshal and DEH to the Garrison Commander.

c. Outdoor advertising lighting is not permitted.

d. Exterior lighting will not be used:

(1) When natural or street lighting is adequate in any area.

(2) All night except approved security lighting. If security lights are needed, approval must be attained by DF (DA Form 2496) forwarded to the Provost Marshal. If the Provost Marshal determines that a security requirement exists, a DA Form 4283 with the approving DF will be forwarded to Chief, ERMD, AFZW-DE-RM, ATTN: Energy Management Branch. Approved security lighting will be the most energy-efficient lighting practicable, generally high pressure sodium.

(3) Continuously over weekends in any area. Energy Conservation Officers will provide necessary procedures and instructions to ensure that manually controlled outside lighting is turned off at dawn seven days per week. This procedure will be provided in the responsible organization's SOP along with the location of the lights and individual switches.

(4) On buildings not occupied by personnel at night.

e. EXTERIOR DECORATIVE and CHRISTMAS LIGHTS.

(1) One exterior electrically lighted Christmas tree or other electrical display is permitted on each installation/subinstallation. On Fort Ord the exterior display will be located at the Main Post Chapel. On FHL/POM The Garrison Commander will designate the location. All other outdoor decorations will be non-electric.

(2) Each family housing unit, unit chapel, dining facility, and troops quarters building is authorized one interior illuminated Christmas tree or other electrical display. Interior displays in all other areas will be non-electric.

(3) All personnel and family housing residents will reduce lighting and electrical consumption in their areas as a minimum compensation for the additional electrical power consumption expected during the holiday season.

f. Automatic time clocks and photocells will be installed where appropriate to control outside lighting when not needed. Automatically controlled outside lighting that has failed on (continuously illuminated even during daylight hours) will be reported immediately to DEH.

g. Outside lighting such as porch lights on family quarters and barracks shall not exceed 25 watts. Exterior lights on family quarters will normally be extinguished by 2300 hours daily.

h. Desks and furniture shall be located to take maximum advantage of daylight. Interior lights will not be used when natural light is adequate nor will they be used in unoccupied or unused portions of facilities.

i. Interior incandescent lighting will be replaced with fluorescent lighting where appropriate.

j. Energy Conservation Officers will inspect their assigned areas for proper lighting levels. A DEH, Energy Management Branch technician will assist, using a light meter, when requested. DEH assistance may be requested by telephone, ext 4503. Allow at least two working days notice prior to desired inspection date.

k. During working hours, interior overhead lighting will provide 50 foot-candles at the desk surface level, 30 foot candles in general work areas, and 10 or less foot-candles in non working areas. Illumination shall not exceed 75 foot-candles in any area except in medical and dental facilities when prescribed by the Surgeon General. In general, the maximum authorized wattage for incandescent lamps provided in Table D-1 shall not be exceeded.

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## APPENDIX D TABLE D-1

## Schedule of Maximum Authorized Incandescent Light Wattages

LOCATION	MAX WATTS
Barracks, NCO rooms, Orderly room	75
Exterior, Family housing vestibule	25
Exterior, (over doors of barracks or other buildings normally occupied at night)	25
Fire exit signs	15
Kitchen, pantry, living room, bedroom	60
Arms Room	100
Auditorium	200
Toilet rooms, baths, and showers	60
Motor Repair Shops/Libraries	150
Squad Room	60
Maintenance Shops	200
Utility and storage closets	40
Heater/furnace rooms	60
Dining facility	75
Corridor/hallway	40
Stairways/stairwells	100
Loading ramp-outside	100
Training/classroom	100

NOTE: The maximum authorized wattage shown for each case is merely a guide to use when light meter readings have not been taken. Army Medical Department Facilities are exempt from these guidelines in general.

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## APPENDIX E - WATER CONSERVATION DIRECTIVES

1. USE OF WATER. Water use will be supervised in all cases by a responsible individual to prevent water waste.

2. WATERING. Irrigation (lawn watering) is not permitted during or immediately after rain storms. Grass will not be watered during the rainy season, 1 October to 1 May. In the event of a protracted dry season as determined by DEH, an official exception to this policy may be issued. Due to the shortage of good quality water in this area, lawns will only be watered enough to sustain life. Lush green lawns are not desirable and are indicative of water waste. Lawns will not be watered between the hours 1000-1800 except by DEH and contracted gardeners.

a. Fort Ord housing areas may water two times per week as outlined below.

(1) Sunday and Wednesday: Hayes, Stilwell, Marshall, Fitch.

(2) Saturday and Tuesday: All other housing areas.

b. Fort Ord Troop Areas may water two times per week as outlined below.

(1) Tuesday and Friday - Area 1 (Bounded by 6th Avenue, Gigling Road, First Avenue, and Third Street.)

(2) Monday and Thursday - Area 2 (Bounded by 6th Avenue and Imjim Rd, Twelfth Street, First Avenue, and Third Street, including all of the 2800 area buildings.)

(3) Wednesday and Saturday - Area 3 (Bounded by the area east of 6th Avenue and Imjim Rd, west of First Avenue, and the areas not enclosed by boundaries as specified for areas 1 and 2 above.)

c. Watering will be limited to 20 minutes per sprinkler location. An adult shall be present at all times during watering. Watering will be closely monitored to ensure that water does not flow or spray onto streets, driveways, etc.

d. Watering flowers is permitted at any time. A hose with an automatic shut off nozzle must be used.

3. Hardstands, streets, walks, washracks, and driveways which can be broom swept will not be washed with water. Oil spots will be cleaned up using a commercially available oil dry compound or other equivalent means such as cat litter or sand. Saturated oil dry will be properly disposed of.

4. Dining facility clean-up areas will be scrubbed and flushed as required to maintain sanitation. Usually, once daily will be sufficient. Hot water will be used sparingly. Vehicles, civilian or military will not be washed in these areas.

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5. Hoses with automatic shut off nozzles shall be used for washing vehicles. Hot water will not be used to wash any vehicle.
6. Decorative water fountains are prohibited.
7. Organized car washes may be authorized only to raise funds for officially recognized charities as determined by DPCA. Requests for car washes shall be forwarded to DPCA. A copy of approved car wash requests shall be delivered to DEH at least one day prior to the scheduled date. Car wash requests shall cite that a supervisor will be present to prevent water waste, automatic shutoff nozzles will be used, and environmental standards will be adhered to. The supervisor shall have a copy of the approved car wash DF in his possession at all times and shall present it to an Energy Inspector upon request.

## APPENDIX F - BUILDING SPACE UTILIZATION AND SURVEY

1. Inefficient use of space is one of the largest sources of energy waste in the Army today. Area allowances for personnel are established by Army regulation AR 405-70 and provides a basis for determining which buildings are under utilized. Personnel and functions must be added to under utilized buildings, or the existing personnel and functions must be relocated to permit building closure.

2. AR 405-70 requires Commanders to ensure that only the required minimum number of buildings are being used. Each Commander is responsible to ensure that building utilization surveys are conducted annually to determine actions to be taken to reduce the number of buildings utilized. The following actions should be included in the survey.

- a. Make drawing of building and rooms (or use blueprints).
- b. Identify each heated/cooled room by activity, number of occupants, and normal hours occupied.
- c. Identify rooms that are occupied intermittently, eg. conference rooms, or rooms that are occupied beyond normal working hours.
- d. Identify rooms that have independent heat or air conditioning controls or temperature sensors.
- e. Reschedule use of rooms that are intermittently occupied, such as classrooms, so fewer rooms are better utilized.
- f. Rearrange personnel and functions so that rooms which are not occupied or are occupied only intermittently may be closed off.
- g. In training buildings, schedule classes so that buildings are occupied a maximum of four days per week and ensure the heating temperature is reduced to 40 degrees F for the unoccupied period. If there is no danger of pipe freezing, the temperature may be lowered even further or the system shut down completely.
- h. If a building is found to be under utilized, move personnel and functions to another under utilized building, or at a minimum move personnel to one floor of a two story building. Close off the unoccupied floor and allow only enough heat to prevent pipes from freezing if applicable.

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APPENDIX G - MISCELLANEOUS PROCEDURES

1. Utilities (gas, water, electrical) services may not be connected to trailers, campers, recreation vehicles of any kind, electric vehicles, or similar structures/vehicles from government housing or buildings.
2. Temporary repairs to broken windows, doors, etc. will be made on the spot to conserve energy. Corrective and permanent repairs required to conserve energy will be performed by the unit R&U or DEH, as appropriate, in accordance with Fort Ord Regulation 420-1. An example of what is meant as a temporary repair is the covering of a broken window pane with a piece of cardboard and tape until a permanent repair can be effected.

# APPENDIX H - ENERGY CONSERVATION CONTINGENCY ACTIONS

1. GENERAL. In the event it should become necessary to reduce energy consumption levels below current usage, immediate action will be taken to maximize the efficient use of available energy resources. The ADC(M) will call an Energy Council meeting immediately to direct appropriate action in accordance with this plan and as he may deem necessary. An Energy Emergency Advisory Board consisting of the following personnel as a minimum will take immediate action to implement this plan and keep the Major General informed through the ADC(M): Energy Coordinator, DEH, DIO, DPT, DIC, CofS, ADC(S), PAO, CPO, Chairman of Fort Ord Family Housing Energy Council, Cdr FHL, DPC POM, and DHS.

2. REDUCTION PHASES. Phases of energy reduction have been devised to assist in managing available reduced energy supplies. The reduction levels vary from 15% to greater than 50% of normal supply. Each phase (mobility and facility) provides an implementation program to keep usage commensurate with supply.

<u>PHASE NUMBER</u>	<u>MOBILITY REDUCTION</u>	<u>FACILITY ENERGY REDUCTION</u>
I	15%	15%
II	35%	25%
III	50%	35%
IV	greater than 50%	50%

3. COMPUTING REDUCTIONS. Following an announcement to reduce energy consumption to an appropriate phase, the percentage rates of reduction are to be based upon consumption figures for gallons of vehicular fuels (including aviation fuels), MBTU for heating fuels, and kilowatts of electricity as close to the announcement date as possible.

4. PHASE I (15% Reduction Level).

a. MOBILITY FUELS (15%).

(1) Vehicles.

(a) Consider fuel expenditures when planning types of training.

(b) Schedule training to maximize use of pooled equipment.

(c) Develop most economical means of transportation for equipment and personnel to training sites.

(d) Select close-in training sites when possible.



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(e) Maximize combination-type training (road march and range firing) to conserve fuels.

(f) Eliminate all vehicle pass bys at change of command ceremonies.

(g) Combine proficiency training with normal operations.

(h) Consolidate administrative trips such as ration breakdown and supply runs. Reduce number of trips when consolidation is not feasible.

(i) Reduce or discontinue use of equipment for community civic action projects.

(2) Aircraft

(a) Ensure Combat Readiness Flying (CRF) is conducted in conjunction with operational missions whenever possible.

(b) Eliminate static displays for public viewing.

(c) Eliminate use of aircraft in demonstrations and other non-mission essential activities such as flyovers and change of command ceremonies.

b. FACILITY HEATING FUELS (15%).

(1) Maximum space utilization will be enforced.

(2) Shut off all heat in shops, motor pools, gymnasiums, and hangars.

(3) Reduce thermostat settings to 55 degrees F. maximum in admin and housing areas.

c. ELECTRICITY (15%).

(1) All outside lighting except as required by AR 190-11 will be disconnected.

(2) Where possible reduce use of electrical equipment.

(3) Enforce maximum efficient space utilization.

5. PHASE II (25% and 35% Reduction Level).

a. MOBILITY FUELS (35%).

(1) Reduce number of administrative staff visits to subordinate units.

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(2) Reduce number of conferences, review records of vehicle use, and withdraw vehicles from use where priority or mission and/or utilization is not justified.

(3) Reduce all performance oriented training where fuel is consumed.

(4) Reduce number of vehicles used in driver training.

(5) Reduce number of tactical vehicles in operation and consolidated use in training.

b. FACILITY HEATING FUELS (25%).

(1) Heat will be shut off in all admin, company, and headquarter buildings.

(2) Housing will reduce heating hours where possible.

c. ELECTRICITY (25%).

(1) Shut off all air-conditioning except in surgery at Silas B. Hays Army Hospital.

(2) Shut off all non-essential electrical power consuming equipment and appliances.

6. PHASE III AND IV (Energy Reductions of 50% and greater).

a. MOBILITY FUELS (50%).

(1) Stop all mechanized training.

(2) Use only one administrative vehicle for each major unit.

(3) Reduce the number of support vehicles by 75%.

(4) Vehicles will not be used to simulate unit training.

b. FACILITY HEATING FUELS (50%).

(1) All efforts will be made to reduce heating in housing and barracks to a minimum.

(2) Reduced heating efforts will be supplemented with rotating outages.

c. ELECTRICITY (50%).

(1) Stop use of all power equipment, except in absolute emergency.

(2) Use only appliances necessary for food preservation and preparation.

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(3) Rotate power outages on post by area. Outages to last from two to six hours. These selective area power outages will have to be determined at time of energy reduction.

Engineer Technical  
Letter 1110-3-282

Engineering and Design  
ENERGY CONSERVATION

1. Purpose. This letter provides design guidance regarding energy conservation measures for Army facilities.

2. Applicability. This letter applies to all OCE elements and field operating agencies having military construction design responsibility.

3. Background.

a. Executive Order 12003, dated 20 July 1977, established energy conservation goals for new and existing Federal facilities. These goals are to reduce energy usage by 45 percent in new buildings and 20 percent in existing buildings, on a per square foot basis, in 1985 when compared to 1975 levels. The Department of Energy (DOE) was tasked by the Executive Order (EO) to establish a program to achieve these goals. DOE is required to prepare guidelines, as part of this program, for all agencies to follow in preparing agency plans for energy conservation. Annual reports will be required on progress made toward achieving the goals. Additionally, as part of the guidelines, DOE was directed to establish " ..... a practical and effective method for estimating and comparing life cycle capital and operating costs for Federal buildings."

b. Additional guidance on energy conservation will be included in the next revision to DOD Construction Criteria Manual DOD 4270.1-M.

4. Design Guidance.

a. Inclosure 1 is a paraphrased listing of energy conservation measures, taken from current DOD and OCE criteria, that are to be considered in the design of new facilities. All items listed in Inclosure 1 will not be technically applicable to every building, and some will be technically applicable but not economically feasible. Therefore, a careful evaluation should be made of each item for each proposed facility.

b. Since mid-1973 to the present, DOD and OCE have been revising construction criteria to minimize military energy usage. Therefore, by relating existing criteria to the paraphrased listing of energy conservation measures, a consolidated criterion is developed.

5. Action To Be Taken. The above guidance will be applied where practical to project designs, subject to availability of funds.

6. Implementation. This letter will have routine application as defined in paragraph 6c, ER 1110-345-100.

FOR THE CHIEF OF ENGINEERS:

1 Incl  
as

LEE S. GARRETT  
Chief, Engineering Division  
Military Construction

## ENERGY CONSERVATION MEASURES

### 1. SITE CONSIDERATIONS.

- a. Orient buildings to take advantage of views, topography, trees and other site features to the extent that such orientation provides favorable energy conservation benefits.
- b. Utilize natural terrain and landscape planting (coniferous trees on north side) to provide windbreaks to reduce heating loads, and shading (deciduous trees on south) to reduce cooling loads.
- c. Where natural ventilation (screened doors and windows) can be used to provide human comfort in trade wind areas and in spring and fall, use natural terrain, landscape planting and features to improve wind patterns around buildings.
- d. Locate parking areas to avoid creating heat islands adjacent to the building. Provide adequate landscape planting to absorb heat and exhaust pollution.
- e. Consider locating all or part of the facility underground. Consider berms or mounding around ground level facilities.
- f. Fit structure to terrain considering air flow, topography and existing tree cover.

### 2. ARCHITECTURAL.

- a. Minimize wall and glass areas exposed to the south, southwest and west when air conditioning rather than heating is expected to be the major load. Architectural shading, deciduous trees, tinted glass, or solar screening should be considered for all glass having these exposures. For applications where heating is the major concern, more glass exposure to the south, southwest and west and less to the north would be desirable.
- b. Evaluate use of glass since glass permits the greatest transfer of energy of the building components. For areas where natural ventilation is possible, operable windows may be desirable.
- c. Evaluate the use of double glazing, double glazing with storm windows, or triple glazing. Exterior walls of buildings located in mild climate areas with large glass areas can have a lower composite "U" value

#### Inclosure 1

with double glazing and uninsulated walls than with single glazing and insulated walls; therefore, the cost study of buildings with large window areas should consider the cost effectiveness of using double glazing and uninsulated walls,

d. When air conditioning rather than heating is of primary importance, use light colored surfaces on walls and roofs to reduce solar heat gain. Where heating is the primary concern, the use of darker exterior colors may be in order.

e. Use minimum ceiling heights to minimize volume to be environmentally controlled.

f. To reduce infiltration losses, as well as total heating and cooling loads, consider unconditioned vestibules to act as "air locks" for entrances to conditioned spaces.

g. Since the north side of facilities are subject to most extreme cold, rooms with low utilization are to be located on the north wall to provide a thermal buffer, if functional requirements permit.

h. Consider magnetic weather stripping around steel insulated doors to reduce drafts and leaks.

i. Consider window area reduced to eight percent of floor areas, except on properly shaded south orientation.

j. Consider exceeding criteria requirements by increasing insulation in walls and roofs.

k. Optimize the wall and roof area to interior volume ratio to reduce the exterior surface area available for heat gain and heat loss in extremely hot and cold climates.

l. Consider consolidation of individual structures into one facility.

m. Select construction material and assemblies for exterior envelope that have high resistance to heat flow and/or that will provide, thermal lag.

n. Locate corridors, stairwells, elevator shafts, storage rooms, etc. on exterior to act as a buffer between exterior and conditioned space - west exposure when air conditioning is significant, north exposure when heating is significant.

o. Utilize natural lighting when cost of electrical energy saved will exceed cost of additional energy required for air conditioning and heating.

### 3. MECHANICAL.

#### a. HVAC Systems.

(1) Evaluate the following HVAC systems which are considered to have low energy use potential:

(a) Variable air volume (VAV).

(b) Hydronic loop heat pump.

(c) Air-to-air heat pump.

(d) Water-to-air heat pump (where a water source is available).

(2) Do not use reheat systems when new energy is required.

(3) Consider economizer cycle for air conditioning applications; and provide enthalpy controller, as necessary.

(4) Evaluate the economic feasibility of using solar energy for heating and/or air conditioning.

(5) Hot water and space heating requirements will be met by using wasted or excess steam from a nearby facility if economically feasible.

(6) Where feasible, considering health and economic restrictions, heat contained in exhaust air will be recovered and reused by a heat recovery system.

#### b. HVAC Equipment.

(1) Use double bundle condensers on refrigeration machines to reclaim rejected heat. Use rejected heat for domestic water preheating, perimeter heating (when there is a requirement for year around air conditioning) and/or reheat (when humidity control is required or when economically justified).

(2) Use run-around coils, thermal wheels or heat pipes to reduce air conditioning and heating loads resulting from make-up and exhaust air.

(3) Consider use of return air lighting fixtures to prevent lamp and ballast heat from entering the occupied, space thereby reducing supply air requirements and fan horsepower. Warm air from fixtures can be used for reheat in air conditioning systems.

(4) Water-cooled lighting fixtures should also be considered, to reduce air conditioning loads. Water heated by the light fixtures can be used to heat perimeter spaces or for reheat in air conditioning space.

(5) Consider thermal storage (such as water tanks) systems to store heated or chilled water. Waste heat from air conditioning condensers, water cooled lighting fixtures, etc. can be stored for heating purposes in the winter time. Chilled water can be stored to reduce the size of refrigeration machines required for peak loads.

(6) Use built-up water-to-air or air-to-air heat pumps in larger buildings. Consider use of diesel or gas turbine drive (see paragraphs (7) and (10) below), and collect waste heat for domestic water heating, space heating and absorption air conditioning.

(7) Consider the use of diesel engines or gas turbines to drive pumps and other industrial loads to reduce electrical load and electrical demand. Use waste heat as noted in paragraph (6) above.



(8) Consider the use of single stage evaporative coolers as a pre-cooler for outside air make-up in air conditioning systems in arid zones.

(9) Consider the use of air cooled condensers in series with cooling towers to minimize equipment sizes and reduce electrical consumption. Use a small cooling tower in series with a large air cooled condenser for peak saving, particularly in arid zones.

(10) For large multi-use building complexes consider cogeneration (total energy) systems whereby electric power is generated on-site and waste heat from prime mover is reclaimed for use as noted in paragraph (6) above.

(11) When split system unitary air conditioning assemblies of the RCU-A-C and RCU-A-CB. (see Table 1, Chapter 42, 1975 ASHRAE Handbook) types having capacities of 60,000 Btuh and less are used, they will have a Btuh/Watt ratio of not less than 7.5 based on the condensing unit and coil only. This ratio will be established for both types of assemblies from the capacity and power ratings listed for RCU-A-C assemblies in ARI publication "Directory of Certified Unitary Air Conditioners." In determining the ratio for a RCU-A-CB assembly, when the condensing unit is listed under RCU-A-C assemblies with different coils, the condenser coil assembly with the highest Btuh/Watt ratio will be used to determine the acceptability of the RCU-A-CB assembly. In cases where the condensing unit used with a RCU-A-CB assembly is not listed as part of RCU-A-C assembly, the Btuh/Watt ratio based on the information listed for the RCU-A-CB assembly will not be less than 6.5.

(12) When room (window) air conditioning units are used for air conditioning existing quarters, they will produce not less than 8.5 . Btuh per Watt input for 120 volts and not less than 8.0 Btuh per Watt input for 230 volt units. In order to establish these ratings, the Association of Home Appliance Manufacturers' publication "Directory of Certified Room Air Conditioners" (latest edition) will be the sole determination. Energy rates for through-the-wall units will be as specified in Federal Specification 00-A-372B. All future replacements of room units will conform to these requirements.

(13) Consider the use of waste heat boilers in conjunction with incinerators to recover energy from solid wastes.

(14) Consider use of modular equipment where part load performance would be improved.

c. Controls.

(1) Use the DOD type thermostat which limits space temperatures to a maximum of 75 degrees F in winter and a minimum of 75 degrees F in the summer.

(2) Provide controls to reduce or eliminate outside ventilation air in unoccupied buildings.

(3) Use an outside temperature sensing unit to modulate hot water and heating systems by increasing water temperature as outside air drops and decreasing water temperature as outside air rises. When fan coil units are used to provide both heating and air conditioning, the hot water should be modulated down to a maximum temperature of 75 degrees F when the ambient temperature is 60 degrees F.

(4) Provide a positive shut-off of heating systems when rising outside air temperature reaches 60 degrees F, except in medical facilities.

(5) Use programed control through clocks or other systems for night, weekend and holiday temperature setback (or cutoff) to reduce air conditioning and heating loads. Normally for personnel comfort, air conditioning, will be cut off and heating will be reduced by 15 degrees F during unoccupied hours.

#### d. Plumbing.

(1) Electric water heaters of 80 gallon capacity and less shall comply with the requirements of Federal Specification W-H-196J. This applies to both new and replacement installations. Water heaters meeting these requirements are included in the current GSA term contract; therefore, all procurements for family housing should be through GSA in accordance with the requirements of DOD 4270.1-M.

(2) Provide domestic hot water to all latrines, heads and toilet facilities without showers or tubs at 100 degrees F. See ETL 1110-3-266 for additional requirements.

(3) In buildings operated on a nominal 40 hour week or in buildings operated on a nominal two shift basis (5 or 7 day week), a clock timer should be used to stop the domestic hot water circulating pump during unoccupied hours, allowing 15 minutes before starting and 30 minutes before normal work hours end.

(4) Evaluate the economics of solar energy to generate domestic hot water.

#### 4. ELECTRICAL.

a. Use three-phase transformers particularly in large substations to reduce transformer losses.

b. Design facilities to provide high power factor.

c. Maintain a base wide power factor of not less than 95 percent.

d. Use high efficiency light sources such as fluorescent lamps in lieu of incandescent in as many areas as possible, and use high intensity discharge lamps such as high pressure sodium in lieu of incandescent lamps or mercury vapor lamps for area floodlighting.

e. Use multiple switching to permit lights near windows and those in

unattended areas to be turned off.

f. Consider the use of time clock or photocell control of exterior lighting.

g. Consider use of multilevel ballasts to permit selection of non-uniform general lighting.

h. Use task lighting instead of high level general lighting. (Requires location of task, by architect or interior designer).

i. Use highest distribution voltage consistent with economics and safety.

j. Provide fluorescent ballast with high power factors ( $pf=0.90$  min).

k. Use three phase power where possible.

(1) Electric water heaters with the regular water heater to meet new and replace. These requirements are included in all procurements for family housing with the requirements of DOE.

(2) Provide domestic hot water facilities without showers for additional requirements.

Buildings operated on a normal basis should be allowed to stop or suspend work, allowed to stop work hours.

Ballasts to meet

reduce transformer losses.

a. Design facilities to provide

c. Use a base with power factor

high efficiency light sources

1. Use as many areas as possible such as high pressure sodium vapor lamps for area lighting

Use multiple switching to permit light